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LOCAL MANPOWER DATA PROGRAMS, AN ANALYSIS.

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THE PURPOSE OF THIS STUDY WAS TO EXAMINE THE PROFUSION OF LOCAL AND REGIONAL MANPOWER STUDIES SO COMMUNITIES SEEKING TO UNDERTAKE MANPOWER STUDIES COULD LEARN FROM THE EXPERIENCE OF OTHERS. OVER 300 MANPOWER STUDIES WERE EXAMINED AND CLASSIFIED AS -- (1) MANPOWER REQUIREMENT SURVEYS, (2) POTENTIAL LABOR FORCE SURVEYS, (3) WAGE SURVEYS, (4) TECHNOLOGICAL AND STRUCTURAL CHANGE IMPACT STUDIES, (5) STUDIES OF LONG TERM UNEMPLOYED, (6) ECONOMIC BASE REPORTS, (7) STATE AND OVERALL ECONOMIC DEVELOPMENT PLANS, AND (8) MISCELLANEOUS STUDIES. SOME CONCLUSIONS WERE -- (1) DEMAND ESTIMATES FROM SAMPLED EMPLOYERS ARE DIFFICULT UNLESS SAMPLES ARE WELL CONSTRUCTED AND COOPERATION WITH DATA SOURCES IS ACHIEVED, (2) HOUSEHOLD SURVEYS APPEAR TO BE THE MOST USEFUL TOOL TO USE FOR LABOR SUPPLY INFORMATION, (3) TREATMENT OF MOBILITY TENDS TO BE NAIVE, (4) WAGE DATA ARE EASILY OBTAINED ONCE THE DIFFICULTIES OF COSTING FRINGE BENEFITS ARE OVERCOME, AND (5) SAMPLES OF TECHNOLOGICAL CHANGE STUDIES WERE POOR. A BIBLIOGRAPHY LISTS ALL OF THE STUDIES REVIEWED AND DISCUSSED. (EM)

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LOCAL MANPOWER DATA PROGRAMS:

An Analysis

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Preface

This study originated from a request by the Virgin Islands for a manpower study. As part of this study, a review of manpower studies conducted on the mainland was to be made. The Virgin Islands study never materialized, but a review of published manpower was deemed worthwhile for general purposes, in the hope that small jurisdictions could learn what others are doing.

Mr. Cho-kin Leung, my assistant, worked so closely with me that he is entitled to co-authorship. I am also indebted to Miss Judith Clifford, who worked as my secretary during part of the study, and to Miss Jeannie McCloskey, who untangled the periodic crises that beset this project.

Bruno Stein

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INTRODUCTION

It is only in recent years that manpower planning has become an important aspect of government activity. More than anything else, the relatively high levels of unemployment found during the prosperity of the early 1960s spurred government into action programs. At the same time, businessmen in the private sector found from time to time that puzzling labor shortages made themselves felt despite the labor surplus indicated by aggregate unemployment figures. Added to this was the general fear, on the part of the public, of the impact of rapid technological change upon employment and unemployment. The advent of the war on poverty put further focus upon the uses and misuses of human resources. It is not astonishing, therefore, that public and private policy makers turned to government for the information necessary to planning purposes.

The ordinary information gathering systems of governments were not geared to fulfill the new needs. The decennial Census of Population stales quickly in an era of rapid change; the 1960 Census was not, in any event, constructed so as to provide data needed as a result of legislation not yet passed. The Bureau of Labor Statistic's monthly series on employment and unemployment, however important for nation-wide purposes, gave little help to those who faced manpower problems at local levels. Data gathered by the Bureau of Employment

Security and its affiliates was geared more to the operational needs of public employment services than to the facilitation of manpower policies. Individual government agencies sometimes found it expedient to gather their own information for specific purposes, of, like school systems, to rely on traditional methods of planning that were conceived at an earlier time and for different problems. In the private sector, the need for adequate information became equally urgent. Collective bargaining situations, plant location and relocation decisions, internal training policies, and the like, all required data of a new type.

Under these circumstances, considerable confusion exists, and this confusion has not been clarified by the welter of academic research programs and uncoordinated experimental data projects that are emerging. Statistics is, after all, a dull subject. It is a means to an end. Policymakers, concerned with ends, are likely to have little patience with people who quibble over figures, even though their plans are not likely to be better than the information on which they are based. Nor can they wait until all the decimal points are in place before acting to fill social or private needs. Thus, improvements in data gathering must keep pace with the action programs instead of (ideally) preceeding them. We are confronted with a situation in which policy requires data, and data suggest policy. The situation is dynamic, and if it lacks the element of neatness so dear to textbook writer, it is, by the same token, a challenging one.

In a large sense, manpower planning is as old as man. Tribal practices that taught boys to hunt and girls to raise corn are analogous to Dade County's decision to operate vocational schools to serve the needs of the local population and local industry. An initiation ceremony completed the one; commencement exercises complete the other. Both are public manpower policies based on social needs; but similarity ends here. The extensive division of labor characteristic of an industrial society and the technological change present add an overwhelming complexity. It is, of course, the economic function of the market mechanism to solve, for each labor market, the complex problem of matching demand with supply. Indeed, in the long run, it probably does this fairly well, albeit without reference to such non-market social goals as may be expressed in legislation like the Employment Act of 1946, the Area Redevelopment Act, the Manpower Development and Training Act, or the Economic Opportunity Act. Public manpower planning is not, in our society, designed to replace the market mechanism. Instead, its purpose is to facilitate the smooth short term operation of the market mechanism. By reshaping the supply of labor to meet specific demand, it has the potential for both reducing the structural segment of unemployment and increasing the income of the economy. It also serves to facilitate more effective private manpower policies, thus reenforcing the above-named goals. In the language of economics, it makes possible a more rational utilization of existing resources.

The aggregate level of income and employment is, of course, a function of total private and public spending. As was noted above, public manpower policy can only affect the structural segment of the unemployment level. Fiscal and monetary policy are not, however, antithetical to manpower policy, and the two can be blended so as to make one another more effective. Our knowledge of fiscal and monetary policy is far more advanced than our knowledge of manpower policy. It is probably significant that the statistical information available to fiscal and monetary planners is far superior to that available to manpower planners. (This is true, it should be added, in the private sector as well. Information regarding the capital market is not merely more accurate and reliable -- it is more available than information regarding the labor market.)

Clearly, good information is merely a necessary, not a sufficient, condition for planning. A clearly defined goal is needed, and the term "manpower policy" has never been given a very clear definition. To some extent, this may be a function of the market nature of our economy, where an ideological suspicion prevails in regard to public planning. Planning is not, of course, alien to free enterprise economies, as the European post-war experience has shown, but cooperation from the private sector is vital to the success of any plan. A further difficulty regarding manpower (or any other planning) stems from conflicts of interest between regional and national policies. To take a hypothetical example, a national policy might encourage the migration of labor from declining to growing areas, whereas it might be to the advantage of a declining region to retain its population (for that matter, a growing region may not want migrants if they place a strain on public facilities or create racial problems). In short, although there is wide agreement that matching workers and jobs is a "good thing," agreement does not extend beyond this homily. The idea that a manpower policy might be an anti-inflationary tool has not, for example, been understood by many people.

Manpower policy seems to be an elusive concept, and this is demonstrated by the many studies it has generated. From the end of the 1950s to the present, a variety of legislation has stimulated research. It was the purpose of this study to examine the profusion of studies made to ascertain the manpower situation on local and regional bases, with the hope that communities seeking to undertake manpower studies could learn from the experience of others. To this effect, we examined about 300 different local regional and state studies which, in part or in full dealt with manpower. The publications were selected not as representative of all manpower data publications, but in terms of ready availability. An effort was made to encompass as diverse a selection as possible, and to put some focus on relatively isolated jurisdictions.

For analytical purposes, the publications we placed in the following categories:

1. Surveys: Manpower Requirements
2. Surveys: Potential Labor Force
3. Wage Surveys
4. Impact of Technological and Structural Change
5. Long Term Unemployed
6. Economic Base Reports
7. State Plans and Overall Economic Development Plans
8. Miscellaneous

The plan of our work is as follows. From categories 1 - 7, specific studies are described for illustrative purposes. They are identified by code numbers that indicate the category and whether the study was regional (R) or statewide (S), e.g., 3R-1 refers to a regional wage survey. A chapter with some discussion of the issues, is devoted to each category. This is followed by a brief discussion of the needs for supply and demand data that could be met by a systematic series of job vacancy data and by quinquennial Census of Population. A final chapter contains a summary of our findings. The complete list of studies we examined is found in Appendix A.

I. SURVEY - MANPOWER REQUIREMENTS AND OUTPUT

An efficient economy requires efficient allocation of the factors of production. If full employment is a major goal, then the concept of efficiency requires not only a job for every person available for employment, but also the right job for the right person in terms of actual and potential skills of workers, and workers' preferences. This objective is difficult to attain in a dynamic economy where the demand for goods and services changes in quality and quantity, and calls for changes in the methods of production. Economic growth is by no means inconsistent with less than full employment (however one wishes to define the latter concept), and we have seen periods of expansion where the rate of unemployment has been relatively high, compared with previous experience. Nevertheless, unemployment and underemployment represent idle resources which, in turn, represent foregone income -- and tax revenues -- to the economy. It is not necessary here to go into the argument between the structuralists and the aggregate demand theorists. The manpower planner in any given area must take the current state of fiscal and monetary policy as given, and work within this framework. Hence, some of the unemployment he sees (and the underemployment and hidden unemployment that he must search out) appears to be structural, even though a change in fiscal policy, made far away in Washington, might help to reduce it. From his point of view, and this may also be true for the aggregate economy, there may be a discrepancy between the demand for labor and its supply, some of which may be reduced by enabling the markets for labor and capital to operate more smoothly. The primary purpose of a manpower skill survey, then, is to provide some of the information needed to make factor markets operate more effectively, as well as possibly to alter demand and supply of particular factors. The skill survey is essentially a stock taking of both existing jobs and available labor supply, and an estimate of the volume of flows required should these stocks not be in equilibrium. During the early 1960s, a good many skill surveys were made on area bases. In the paragraphs that follow, typical surveys will be described, and an attempt will be made to evaluate the usefulness of this technique.

Nature and Characteristics of Manpower Skill Surveys

The general purpose of the manpower skill survey has been described above. Unless such a survey is made for a specific objective, such as plant location, it generally covers the following data by selected occupational groups: 1) recent and current employment; 2) forecasts of additional employment for certain periods, usually two or five years, but sometimes one or three years; 3) estimated supply of workers who will have completed their training during the forecast period; 4) hard-to-fill jobs, i.e., skills in short supply, and 5) the expected impact of technological change and the emergence of new occupations

/

or skills. The principal source of these data are employers, and local schools and training projects provide information on expected labor supply.[1]

Information furnished by such data can be extremely valuable for both labor surplus and labor shortage markets. Current data are useful for counseling; hence, it is possible to reduce the unemployment and underemployment caused by the absence of good information regarding job opportunities. Data on changes in job requirements and expected labor supply over time are crucial for area economic development and planning. Equipped with reliable forecasts, the community can plan its vocational training programs to supply the proper mix of workers, while, at the same time, labor market enterers and re-trainees can be guided intelligently in making career choices. It is even possible that, as a result of survey activity, local employers may be stimulated to re-examine their needs and to promote in-plant training programs, or to improve such programs if they already exist.

Clearly, a survey has great potential value to an area. From the mass that were published and examined by us we have chosen six to summarize: two statewide and four regional ones. Our comments follow the brief summaries, and include some discussion of the problems encountered. The surveys will be identified by a code number, since no purpose is served by praising or embarrassing particular agencies, and it is the general experience that is of primary interest.

Some Typical Manpower Skill Surveys

Case 1S-1: This is a statewide survey on manpower done in the end of 1963. The stated objectives are: (1) provides guidelines for higher education programs; (2) help in counseling job applicants and students; (3) reduce discrepancies between supply and demand of workers in different occupations; and (4) furnish manpower information to firms interested in establishing branches in the state. Thus, the study was designed to obtain a comprehensive information on manpower inventory as at the survey period and projected manpower demands up to 1975.

A list of occupations was chosen for the purpose of the survey. These were classified in accordance with the *Dictionary of Occupational Titles*. Then industrial classification and employment size of sample firms were determined with reference to the list of covered establishments. In addition, non-covered firms such as service establishments, private educational institutions, hospitals, nursing homes and non-profit organizations were included. The designed survey sample then covered: all firms employing 100 workers and above; one of every five firms employing 20-99 workers and one of every twenty-five having 4-19 employees. Except for the large firms (with 100 employees and above) of which all were included in the sample, the smaller firms were chosen by random method. Firms with 100 or more workers were contacted by persons or by mailed questionnaire and the rest were contacted through the mails. Fifty-five percent of the firms responded.

Employers were asked to furnish data on: (a) total number of employees during the pay period nearest the survey time; (b) estimated total employment for the same period in 1965, 1970, and 1975; (c) number of workers employed (excluding trainees) for each job title indicated, by age group and sex; (d) current job vacancies existing for each type of occupation and jobs difficult to be filled by qualified workers; (e) estimated number of workers (excluding trainees) by occupation for the years 1965, 1970, and 1975; (f) number of trainees by occupations which they were oriented during survey period; (g) cumulative number of persons by occupation expected to complete training in 1965, 1970, and 1975; and (h) minimum educational achievements required for workers in each occupation.

The collected data were inflated to universe size and adjusted with the Employment Security Commission's monthly estimates of industry employment as benchmark. Through the published statistic tables, the agency shows a detailed current employment picture, with employment by occupation and age and sex group, unemployment as well as job vacancies. Future requirements (as for 1965, 1970, and 1975) are also shown by each occupational group.

Case 1S-2: This is also a statewide survey but with different focus. It attempts to measure the demand and supply of technicians, skilled and clerical workers by detailed occupational breakdowns. In view of the rapidly growing demand for these types of workers, the agency states that the information revealed in this study will be useful for consideration of the size of training courses required and for counseling high school students.

The study is combined with three surveys carried out separately in 1962. The first survey was conducted through mailed questionnaires to a stratified sample of firms which covered all firms employing 100 workers or more, 25 percent of firms employing 20-99 workers and 4 percent of firms having 4-19 workers in a specially defined universe which represented about 27 percent of total employers. About 50 percent of firms replied, which accounted for roughly 52 percent of workers in the universe. Information requested in this survey was: (a) current employment by occupational and age group; (b) future employment for 1 and 3 years from date of survey; (c) number of trainees in plant training and dates expected to complete training; and (d) employers' minimum requirements for types of workers.

The second survey was to probe for the development of new occupations brought about by technological change at present and in the near future. This was done through personal interviews with the executives of a selection of large firms (with 100 or more workers). First, the employers were asked to outline briefly the most important technological trends which will carry impact to the industry on the skills of workers in the next few years. Having identified the new types of workers, the employers were then asked to evaluate the qualifications, training requirements, number of such workers demanded in 3 and 5 years hence, and number of current trainees and output in 3 and 5 years.

With a view toward determining the skilled and technical levels of self-employed workers, the third part of the study was a survey through mailed questionnaires to firms with 3 or less workers. Details asked included nature of business of the firm, educational achievement and skilled and technical background of all employed. About 30 percent of the sample firms responded.

Case 1R-1: This is a study on labor requirements and supply in 80 selected occupations of a labor market area. These occupational groups were considered important to local employment. The study was prepared towards the end of 1962 with the similar objectives as mentioned previously in case 1S-1: namely, measure demand and supply of specific types of workers, promote training activity, provide counsel to young people and information for employment planning and industrial development.

Selection of samples was done in a manner different from the usual survey. All firms with 500 and over workers were first included. Then from each of the six industry groups selected for study, a minimum number (125) of smaller firms was chosen. Finally, the sample was enlarged by adding the "major market employers" listed in the record of the local B.E.S. office, among them some "non-covered" employers.

Having set up the sample in such a way, the agency contacted the sample employers by mailing out questionnaires. The responding establishments together had about 41 percent of total non-farm employment in the area. The final data were inflated into universe size by six different inflators: one designed for each industry.

Through the above-mentioned methodology, the statistical characteristics collected were: by each occupational breakdown, (a) the current employment by age group and sex; (b) current job vacancies; (c) current in-plant trainees; (d) estimated total employment in 1, 3 and 5 years from date of survey; and (e) accumulated number of trainees completed training for the same periods. To complete the study, the agency obtained the current unemployment characteristics from the local State Employment Service Offices and the estimated future labor output from various local schools and institutes.

Case 1R-2: This is named as an occupational training needs survey on a labor market area. The work was done in early 1963 with the primary purpose "to compare the anticipated job supply with demand" in the area.

About 50 different occupational groups were selected for study. However, no mention is made as how the sample was chosen. 60 percent of the survey sample responded, which covered about 36 percent of the area's wage and salary employment. Data were inflated into universe size by appropriate factors.

The completed study statistics on the demand side contained: (a) current and anticipated employment for 2 and 5 years ahead; (b) expansion and replacement demand for the next 2 and 5 years. In regard to the supply side, the only current data were obtained from the active files of workers registered in the local Employment Service office. Sources for the ex-ante data for 2 and 5 years ahead from : (a) employers' estimates for trainee output; (b) schools and institutes (excluding colleges) output; (c) estimated re-entrants and school drop-outs; and (d) projection from current active file data.

In comparing the demand and supply data, surplus or shortage of various types of workers in the coming periods were shown.

Case IR-3: This is a study which attempts to forecast short run change of labor demands in a labor market area. No consideration is given to the supply side. This study is rather out-of-date. It was completed in 1958, but due to its interesting nature and the laborious efforts involved, its inclusion in our discussion is worthwhile.

The selected employers, from various representative industries in the labor market were asked to report current employment and forecast change of employment 2 and 4 months ahead continuously for a period of 7 1/3 years. The entire survey was conducted through interviews between the agency and the representatives of the individual firms. 61 firms participated in the study and more than 1000 of forecasts were made.

Apparently, the agency's major interest was to test the accuracy of employers' forecasts. Thus, instead of showing the absolute figures of the level of employment, the tables show only the number of correct and erroneous forecasts by industry and size of firms. Both percentages of correct and erroneous forecasts in terms of total forecasts were computed. The finding is interesting enough. Both the largest and the smallest firms headed the list of correct estimates. The industries, that made most of the "no change" forecasts scored poorly in correct estimates. Less than 20 percent of all 2 month forecasts proved to be correct. Four month forecasts showed even less accuracy. Many firms made constant forecast for both 2 and 4 months ahead. On the whole, cases of under-estimates outnumbered that of over-estimates. With this rather discouraging result, the agency, in its conclusion, did not conceal its somewhat dispairing mood in regard to the value of employers' forecasts. The results are not surprising, however, when one considers that forecasting is a rather sophisticated matter.

Case 1R-4: This is an area manpower skills survey completed in early 1964. The main objective of this study was to seek employment information, both current and 1 and 3 years later, in occupations with surpluses or shortages of labor supply. Thus, the focus was upon the occupational groups within the labor market area where discrepancies between supply and demands of labor existed and such where discrepancies were expected to exist in the future.

To establish a basis for judgement on the "surplus and shortage" occupations, the agency first conducted a survey by sending questionnaires to the various local Employment Security offices requesting a preliminary estimate of employment in these occupations. From the same offices, through different questionnaires, characteristics of unemployed job applicants in these occupations were also obtained. In regard to the future supply of labor force to the same occupations, a third survey of local public and private schools was made. The last, but the main, survey - the employer survey - was carried in two parts. The first set of questionnaires requested general employment information from the firm and the second set asked details on certain selected occupations which were specially related to the firm. Thus, the questions contained in the first format were standardized while those in the second format were tailored to each respondent.

All employers with 3 or more workers - both "covered" and "noncovered" - were included in the universe of the survey.

A four stratum sample was developed which contained all firms with 250 and more employees, 1/8 with 100-249 employees, 1/42 with 24-99 workers and 1/208 with 4-23 workers. Respectively, the percent of responses was 82, 83, 90, and 91 from these strata, yielding an overall percent of 82 in terms of the universe.

All the tabulated data were boosted to universe size by relevant inflators. A separate set of tables was prepared for each main occupational group, and these occupational groups were further broken down by job titles. As in most of the surveys done for the purpose of evaluating current and future demand and supply of labor, data for both these aspects were given. However, they were not directly compared. Data obtained from employers and from the local Employment Security office allowed more detailed breakdowns. These data are current employment and unemployment, estimated expansion and replacement demand for 1 and 3 year periods later, and number of employers reporting the jobs which were hard or easy to fill. For reasons somehow unexplained, data for anticipated output from schools did not go beyond 2 years. This, plus the fact that these data are more aggregated, might account for the fact that supply and demand data were not directly compared.

Having summed up 6 selected employer surveys for manpower study, we feel that we have laid down enough grounds for a general evaluation. In what follows, we shall put forward our comments so far withheld.

Appraisal of Skills Surveys

Since we were limited to an examination of published reports, and were not present when any of the surveys were made, it is clearly impossible for us to give a definitive evaluation of the skills surveys. We can only form our judgment on the basis of the sources of the data obtained, their interpretation, their reliability, and their limitations. It may be argued, of course, that even a poorly conducted survey can reveal some light on the direction of change in employment, i.e., that poor data are better than no data at all, but this is an issue that has not been satisfactorily resolved.

Perhaps the most significant findings in this section stem from Case 1R-3, which attempted to test the accuracy of employer forecasts. The finding that employer forecasts of near term future demand for labor were rather poor does not suggest that no further attempts to move in this direction should be made. Instead, methodological questions are raised, as is the case in job vacancy studies: what forecasting techniques can be developed for different types of firms, including firms that do not engage in much advance planning; who in the firm is in the best position to make estimates of future demand? Can firms be shown that such forecasting is in their own self-interest and is not merely another form to be filled out for some bureaucratic agency? A large issue that intrudes here, as elsewhere in our study, concerns itself with employer behavior -- planning versus short term response to market forces.

When most firms follow the latter approach, manpower planning is itself difficult and the data question is only part of this difficulty.

Although a sample survey is never as good as a survey of the universe, sampling can, of course, produce excellent results and is far cheaper and more expedient in most cases. It must always be kept in mind that the smaller the sample, the larger is the standard error, i.e., the less efficient the estimator. Furthermore, the sample must be as representative as possible. When the composition of the population (employers, if employer surveys are under discussion) varies widely from area to area, proper stratification becomes a crucial issue and no general formula applies. None of the studies examined for this section gave an extensive explanation of the formula used, and we have no way of knowing whether the formulas were arbitrary or based on the best judgment of survey research specialists; in the case of some of the more amateur products we examined, the latter possibility was not likely. On the whole, the formulas resembled one another: 100% of the firms with the largest number of employees, plus two or three additional strata with varying percentages of firms with smaller numbers of employees. Percent of response, whether in terms of employers or employees, serves as a criterion for judging the reliability of a survey result but in the light of our discussion above, it is far from being the sole criterion.

To use a simple example, the failure of a few large employers to respond may count insignificantly in terms of the total number of employers but it is crucial in terms of employment. Even a relatively small non-response from small employers might distort the employment picture significantly in particular industries. All this is obvious, but is worth keeping in mind when judging the representativeness of respondents. The published studies indicate that a rough a ready basis of judgment was used. Of course, when a very low percent of response occurs, as in Case 1S-2, skepticism regarding the reliability of the inflated data, both current and forecast, may be well justified.

Employers are an excellent source of current employment data. The well-known drawbacks of establishment data were not, however, always proper taken into account in the works we examined. For example, such data tend to omit the self-employed, although Case 1S-2 made a valiant effort to tap this information. Furthermore, they reflect the number of jobs rather than the number of workers, so that adjustments must be made in areas where self-employment is relatively great or where multiple job holding is relatively prevalent. We are thus again faced with the need for expertise at levels where it is least likely to exist, a problem that recurs throughout our entire study.

On the other side of the equation -- unemployed workers -- the surveys used a variety of means to obtain data. The simplest was to use the figures from the active file of the local Employment Security office, a method that does not even bear comment. Unemployment was also estimated by the use of the conventional BES building block method. In an attempt to get at hidden unemployment and underemployment, several studies attempted to obtain household data, usually by a post card survey. The last method presents great dangers of low response, and bias resulting from adverse selection of respondents, not to mention all the difficulties that can arise from an incomplete mailing list. In lieu of the post card method, some surveys gathered data by distributing leaflets to school children to take home to their parents, or by handing them out in post offices or other public places. Intensive newspaper and radio campaigns were used in some cases in order to promote a high degree of response. Results varied in quality, although it was difficult to judge quality from the published works. One may comment, however, that the state of knowledge in the use of survey methods is quite good, so that the prevalence of "home-baked" surveys in the studies we examined was rather startling.

Certain types of data used to estimate the new entry and re-entry components of the future labor supply tended to be more reliable, although the authors of some studies often thought that they were estimating total future labor supply. Main sources for such data were expected school and college graduates, in-plant trainees, and students taking training courses under various governmental programs. Data from these sources can be treated with some confidence within a range of one to five years, but projections beyond this invite suspicion. A major difficulty concerning school data, which was frequently ignored, was the matter of estimating drop-outs. Raw figures provided by schools tend to overestimate drop-outs, since some of the persons so reported are out-migrants whose transfers to other schools have not been reported. This may be of some importance if drop-outs are the target population for a particular manpower program.

Data gathered regarding expected furture changes in labor demand were probably unreliable. The data were generally shown in two parts: replacement needs and expansion needs. Given the age structure of currently employed workers, this can be computed from attrition rates under a reasonable set of assumptions. The latter, and more important part, depended on employers' estimates. There is reason to believe, as we saw above, that these are not very good. Indeed, some ambitious long run forecasts, as in Case 1S-1, give an impression of wishful thinking. Shorter term forecasts of two to five years were based on assumptions that, however useful for a static look, needed more flexibility for dynamic purposes. Some assumptions were that 1) the current world political and economic situation will remain stable; 2) economic growth is expected to continue at current rates; 3) labor will remain a relatively scarce factor of production; 4) there will be little change in the occupational structure of employment (!); and 5) institutional services will be adequate to take care of population and economic growth. It would seem that experimentation with alternative sets of assumptions might yield some useful results.

On the whole, we found that estimates of future labor demand were poorer than those of future labor supply. If the skill surveys are to give a more than partial picture of the situation in an area, rigorous thinking in regard to methodological improvement is clearly called for.

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1. Techniques for the collection and tabulation of such data can be found in a variety of handbooks, such as Handbook on Labor Marker Research Methods: Area Skill Survey, U.S. Department of Labor, Bureau of Employment Security, U.S. Employment Service, Washington: 1964 (mimeo).

SURVEY - POTENTIAL LABOR FORCE

Estimation of the size of the potential labor force is a matter of great importance to both private and public policy. If we think of labor as a natural resource, the amount of labor by actual and potential skills is as important a determinant of economic growth as, say, untapped but existing mineral wealth. Public policy aimed at reducing unemployment must take the potential labor force into consideration; the actual labor force will not do since, as Bowen and Finegan and Bernburg and Strand have recently shown,[1] labor force participation rates have a way of varying with the level of unemployment. When the actual labor force is close to full employment, the potential labor force becomes an important datum in the use of manpower policy as an anti-inflationary tool. In short, no policy aimed at promoting the efficient use of resources can afford to ignore under-employment and hidden unemployment. As for private policy, an area where the labor market it not particularly loose may still be a good site for plant location if the untapped potential labor force is large. On a microeconomic level, private enterprise has, through the profit motive, strong motivation to combine resources as efficiently as possible. Its ability to do so can be considerably enhanced by improving the quality of the data available for the necessary calculations.

The potential labor force surveys are essentially a variant on the manpower skills surveys. They are treated separately here in part because they were generally concerned with the supply side alone, the data were obtained from household rather than establishment surveys, and because existing rather than forecast availability served as their focus. From the mass that we examined, seven were chosen to illustrate the problems encountered in the construction of such studies.

Case 2R-1: This survey was made early in 1964 as the first part of a Community Development Program, and its principal purpose is given by its title - "Manpower Occupational Potential Inventory." The authors interviewed 1078 job applicants in the county, of whom 659 were unemployed. No attempt was made to inflate the data, which was presented in five sets of tabulations:

Tabulation No. 1 shows the occupational potential for material-working of the applicants by sex. Since most of the applicants show more occupational potential than in one field, the total number by occupational field far exceeded that of the applicants.

Tabulation No. 2 gives supplemental information by sex on distance willing to travel for employment, wage on last job, educational level, and preference for work shifts.

In tabulation No. 3, by age and sex, fully qualified applicants are shown by detailed primary occupations according to Part I of the Dictionary of Occupational Titles. The non-experienced ones, termed as Entry Applicants, are shown with less details.

Tabulation No. 4 attempts to show a complete picture of the occupational potentials of all the applicants. Occupational classifications were based on Part IV of the D.O.T. Potentials of the applicants other than their primary occupations were determined through aptitude test.

Tabulation No. 5 is an abridged version of No. 4. It shows only the highest occupational potential of each applicant.

Even if the assumption is made that the agency made no attempt to assess the full potential labor force in the county, the study fails to live up to its promise of being an inventory of manpower occupational potential, except in a very restricted sense. We are not told whether the interviewees represent the total number of job applicants in the county, or even the total on file with the local office of the State Employment Service. No attempt is made to reach beyond active job applicants (over 40% of whom were employed) and into the area of persons who might be looking for jobs if they thought jobs were available.

Case 2R-2: This is a survey completed towards the end of 1963. About 3,000 questionnaires were mailed to rural route, star route and post office box holders in the survey area and 15,700 were distributed in the surrounding area. The response was not encouraging as only 3,700 questionnaires were returned. Among the respondents, slightly over 50 percent were unemployed.

The 11 tables presented in the study contain general information on the employed and unemployed respondents. Highlights are: (a) respondents' employment status, martial status and educational level by age and sex; (b) education of respondents by employment status and sex; (c) unemployed respondents by length of unemployment, sex and age; (d) distance of respondents from major cities; (e) resopndents' willingness to accept employment; (f) industry attachment by sex, age and employment status;

(g) respondents by major occupational group, sex and employment status; and (h) inventory of selected occupations by major occupational group, employment status and sex.

Unlike Case 2R-1, we have here an attempt to get information from persons who are not job applicants in the active sense of the word. While the information regarding actual respondents is undoubtedly useful, the limitations of the study are obvious. The response was too poor to be useful as a sample and would, had it been so used, have contained an inordinate amount of adverse selection: the fact that 50% of the respondents sought work shows that persons seeking employment had a greater propensity to respond than those who were not. Common sense would have predicted this, and it is characteristic of surveys in which questionnaires were, so to speak, distributed in broadcast fashion without any attempt at follow-up on non-respondents. A basic methodological issue is at stake. The investigator must decide whether to take a sample or to attempt a census. Unless this decision is made and the study is constructed accordingly, the investigator is likely to wind up with neither one nor the other.

Case 2R-3: In respect, this is one of the most interesting studies in our collection, since it illustrates the large extent to which hidden unemployment may exist in a relatively small area. The survey was made at the request of a manufacturer who was considering the area as a possible site for the location of a plant that would employ a female labor force. Before the survey was made, existing data indicated that about 600 women were available for employment in this kind of a plant. This figure included not only the unemployed, but also seasonal workers who preferred steady jobs, high school graduates and dropouts, and new in-migrants to the community. To the astonishment of all concerned, 1500 women indicated their avability. The results not only tend to support the hypothesis that labor force participation rates tend to vary with the avability of jobs, but also suggest that survey results, by the same token, might vary depending on whether or not real job possibilities are involved. It is, after all, one thing to ask whether a person might want a job if, hypothetically, a job existed; it is quite another thing to tell someone that several hundred new jobs might be available and then ask if the respondents would like to get one of them.

Although the original manufacturer did not avail himself of the information, a number of others were encouraged by the survey result to establish plants in the area. Obviously, even a crude survey of potential labor supply (as this was) can be useful for local development purposes.

Case 2R-4 is a household survey of the labor supply in the northern part of a state, a region consisting of less than three counties. For sampling purposes, the area was divided into five overlapping areas, each with a ten mile radius, and these in turn were subdivided into two sub-areas each. Seven to ten percent of households in each defined area were interviewed and the results were inflated to reflect the universe. The adults in each area were divided, by age and sex, into available and not available labor force. Those not available were 1) the fully employed, and 2) those not desiring a job. The available labor force consisted of 1) the underemployed, e.g., those currently employed but wishing to change jobs if better opportunities appeared, the overskilled, and part time and seasonal workers; 2) unemployed; 3) underparticipants, i.e., persons available for work but not actively seeking employment. Data on the available labor force was shown by industry of present or past employment.

The sampling seems to have been good, and the use of interviews rather than mail questionaires undoubtedly improved the response. The opportunity to obtain more information was foregone, however, perhaps because interviewing is an expensive technique.

The principal objective of Case 2R-5 was to study the changing nature of the region of a state with severe unemployment problems. It is included here because, in addition to the use of Census of Population data, a sample survey was conducted. The sample was chosen with considerable care. Using census block maps, one fourth of the households in every fifth block were chosen, the equivalent of a 5% sample. All sample households were contacted through interviews. Successful interviews were obtained in 85% of the sample. The interviews were conducted between the Fall of 1962 and the Spring of 1963, and covered considerable ground. Interviews averaged 45 minutes in length. In some sixty tables, the results yielded such information as the political preferences of the unemployed;

their daily activities; their feelings toward society. For the employed, information included their attitudes toward the unemployed and their preferences as between higher pay and better working conditions. Employment and unemployment status were established by the questions: 1) how many people in this household were earning money this week? and 2) how many people in this household were looking for work last week?

However interesting the study was from the point of view of its stated objectives, it displays a number of weaknesses from the standpoint of manpower supply information. Once interview techniques are chosen, the temptation to obtain too much information is great; almost as great as the temptation to get too little, because interviews are expensive. If the number of available interviewers is small, the survey must be conducted over a lengthy period of time, and thus loses the advantage of obtaining employment data in a given week that can be compared with other relevant economic variables. Given the funds for depth interviews, it is a pity that the possibilities of digging deeply into underemployment and hidden unemployment were not exploited. We cannot, of course, criticize the investigators for not doing what they did not set out to do, and this is not the intention of our criticism. We merely wish to comment that when funds are available, and the objective can be severely limited, very much useful information can be obtained from a sample survey.

Case 2R-6 is concerned with a special aspect of the manpower supply problem: high school leavers and dropouts. The study was conducted in a Michigan city, and is "an outgrowth of the nationwide concern about school dropouts and about the problems, which appear worsening, associated with young persons in society and in the labor market." More specifically, the objectives were: 1) to study the characteristics and attitudes of two selected high schools' graduates and dropouts during a ten month period in 1962; 2) to estimate the cost of locating and contacting each leaver at least once; 3) to maintain contact with a sample of these school leavers for the purpose of (a) to find out their situation after they have left school; and (b) to offer counseling and placement services; (4) to obtain the leavers' evaluation of the services provided to them by the schools, the State Employment Service and other agencies; (5) to seek recommendations for improvement of these services. Means to gather information were: (a) sending questionnaires; (b) interviews and (c) school records.

The questionnaire was prepared in two parts. The first part, asking only general information on identification and location, was completed by all graduates before they left school. The second part was mailed to the graduates and the drop-outs 90 days after they had left school. This part of the questionnaire requested information on: (a) reason for leaving school in the case of dropout; and (b) various employment characteristics available between the date of receipt of the questionnaire and leaving school. Those who failed to respond were followed up by postcard questionnaires 60 days and again 90 days later.

Procedures (b) and (c) namely, interviewing and photostating of school records, were limited to the sample group only. More detailed and specific information was obtained through these 2 means.

With all the efforts, which involved telephone calls and personal visits, the per capita cost for the survey reported was high: nearly $9 per each returned questionnaire. In the section of Project Organization and Methodology, the agency frankly discussed some problems encountered. Some ambiguous questions raised in the questionnaire had led to meaningless answers. Results would be better if these questions had been more specific.

Although the youth to be included in the project were identified from school records, these records contained insufficient details as well as inaccuracies. The incompleteness was especially pronounced in regard to dropout, transfer, or non-return status. Consequently, this required elimination of some school leavers from the sample.

A very extensive questionnaire was given to the sample group which included 160 graduates and 162 dropouts. The agency gives the details obtained from these interviews in more than 60 tables in the appendix.

The study is a voluminous one. What follows is a selection of the findings.

(1) On what happens to the school leavers:

(a) At the time of the survey, 11% of the dropout and 25% of the graduates had a job.

(b) About 45% of all respondents had had at least one job since leaving school.

(c) A very small portion reported that they had had no unemployment since leaving school.

(2) On their evaluation of their education and the services they received from the school, the Employment Security Commission and other agencies

(a) Only a small percentage of those holding jobs during the survey period recognized that the training they received in the school was helpful.

(b) About 2/3 said that they had received some help from counselors or teachers.

(c) Little could be done by the Employment Service for them. Only 174 out of a group of 435 were called in for pre-referral interviews. Nearly half did not respond, only 8 were interviewed by the prospective employers, and finally 5 were employed.

Case 2R-7: As labeled on the front page, the nature of this survey was "A Study of the size and characteristic of the labor supply in the County, to be used by the County Industrial Development Committee toward economic improvement of the County and in the preparation of the Overall Economic Development Plan under the Area Redevelopment Act." On examining the content of the report, we found that the focus of this study was the available labor supply. This available labor force was roughly defined as those workers who were not fully utilized within the county, which consisted mainly of the under-employed, unemployed and the out-commuters. With a rather arbitrary concept, the agency treated the estimated available labor supply as the difference between the total potential labor force (which was derived by applying the 1950 participation rate to the 1960 census of population figure) and the actually employed in the county.

In order to obtain the characteristics of the available labor force, the agency, in August 1961, sent about 5,500 questionnaires to the householders in the county. However, only those people who would be available for full-time work but were not currently employed in the county were requested to answer the questionnaires. About 600 responded to the survey and their characteristics were tabulated accordingly. The respondents were composed of those who were employed outside of the county, unemployed, keeping house, farm operators and part-time workers. In terms of the arbitrarily derived figure of the total available labor supply, (2030) about 30 percent had responded, leaving 70 percent whose status remained unknown. This was, at best, a partial study on the available labor supply, like some of the others we have dealt with. The attempt to estimate the available labor supply by applying 1950 participation rates to the 1960 population shows some ingenuity, but is open to all the dangers inherent in using ancient data, particularly when the data -- participation rates -- are so unstable. Also of curious interest is the classification of fully employed out-commuters as part of the area's available labor supply. To the economist, the presence of workers willing to travel to work across the boundary of their political jurisdiction indicates a desirable degree of mobility, not a problem. The value judgements of local planners seem to differ with those of economists.

SUMMARY

In this section we examined a variety of studies with a common characteristic, the use of household surveys to determine, among other things, potential labor force. Our comments are contained in the body of the section, and need not be repeated here. Suffice it to say that the household survey is full of pitfalls, but none that the experienced survey technician (with sufficient funds) cannot overcome. Unless the dimensions of a problem are so staggering that they can be elicited with a somewhat amature post card survey (as in Case 2R-3), the cost of household survey may be relatively great, particularly if the interview method is used. In case 2R-6, where interviews, questionnaires, telephone calls, and analysis of records were employed, the cost was $9.00 per head. The cost must be weighed not merely in relations to expected direct benefit, but also to the cost of not obtaining relevant information. This is difficult to estimate, but clearly, an action program based on bad information can be wasteful in several respects; benefits may go to persons who do not need them, as in the case of training programs that inadvertently recruit persons likely to succeed without them, and benefits may be lost to those who were intended to be the target population of a program. To put it another way, the cost-benefit calculation must not be limited to the accounts of one particular agency, but must include the relevant aggregate social budget.

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1. William G. Bowen and T.A. Finega, "Labor Force Participation and Unemployment," in Arthur M. Rose, ed., Employment Policy and the Labor Market. Berkeley: University of California Press, 1965, pp. 115-161. T.F. Derburg and K.T. Strand, "Hidden Unemployment, 1953-62," American Economic Review, March, 1966, pp. 71-95.

WAGE SURVEYS

The wage is the price for a factor of production -- the service of labor. When labor markets operate smoothly, the wage equilibrates the demand for labor with its supply. Labor markets do not, however, operate smoothly, particularly in the short period,[1] and lack of knowledge is one of the imperfections of the labor market. Dispersal of information regarding going wages in a labor market can help to overcome this imperfection. Like any price, the wage is an important element in choice-making for both employers and employees. The potential employer, planning to establish a plant in the area, needs some estimate of the wage he will have to pay and this is likely to be, in part, a function of going wage rates. (It is only a partial function, because other elements enter into the picture, such as labor unions, or the employer's own impact upon the demand for labor.) Similarly, workers, whether employed, unemployed, underemployed, new entrants, or potential migrants, need this information in order to be able to make rational choices; those who engage in job counseling require it for the same reason. Although the Bureau of Labor Statistics has long made excellent wage surveys in selected areas, local and state agencies have apparently found it useful to conduct their own surveys, sometimes as part of skill surveys or development plans. In the paragraphs below, we shall describe three selected wage surveys -- two area-wide and one statewide -- and look into the problems connected with such studies.

Case 3R-1: This is an occupational and wage survey for a tri-city area conducted toward the end of 1964. It attempted to identify and describe the manpower skills and the wage structure of the region as a help in planning for future economic growth. Thus, as stated by the agency, "the survey is essentially a description of Area skills and wages." The study is divided into three parts: part one is concerned with manpower skills, part two gives statistics on the area's wage rates and in part three the comparative wage rates of six neighboring areas are shown.

Characteristics covered in part one are much more simple than those in the skill surveys which we have previously discussed. They include no more than the current employment excluding farm, railroad, and mining, and the applicant file data. In a sense, this is but an inventory of the manpower currently available in the area for these main occupational groups: Professional, Semiprofessional, Managerial and Official, Clerical, Sales, Services, Skilled, Semi-skilled and unskilled. Within each of these major groups a detailed breakdown by occupational titles is shown in separate tables. Data were inflated from a selection of sample which was made from all firms employing 20 or more, every second firm employing 10-19 workers, and every third firm having 5-9 employees. The inflators, therefore, were 1, 2 and 3 for these groups respectively. The survey was done through interviewing with employers; thus the response was nearly a 100 percent one.

In Part II, weighted average wages - some monthly and some hourly - were shown by fewer occupational titles than in Part I. The reason for fewer titles shown was to omit those occupations with too few employees in order to avoid identifying the firms. Wage data for the employees of the U.S. Atomic Energey Commission's facility in the region were excluded in computation on grounds that their inclusion would have distorted the genuine wage pattern in the area. The same inflating procedure for employment data was used in computing the wage data. No mention was made whether the wage rates include fringe benefits. Presumably they do not.

Having tabulated the absolute wage data, the agency in Part III compared the wages for some selected clerical occupations in the region with that in 6 other neighboring regions. This was indicated by indexes, holding the region's index as 100.

Case 3R 2: This is one of the several regional occupational wage surveys in a midwestern state done in the latter part of 1964. It was meant to be "useful for comparison and general economic analysis," but, it was, "in no sense calculated to supply mechanical answers to questions of pay policy." To reduce cost, the study was conducted on a sample basis. However, the agency has made no explanation of how the sample was selected nor on the method of survey. Presumably this was done by interviewing employers. Inclusion of each occupational group was judged by: (1) Surveyable in industry within the area; (2)

Representing occupational groups which were numerically significant in industry currently located in the area. The chosen occupations represented a wide range of pay levels in the area.

Statistical characteristics demonstrated by this report are different from those in the case No. R-1. First, in tables 1 and 2, average hourly rates - both excluding and including fringe benefits - by major industrial and occupational group were shown. Then, the average hourly rate by major occupational group and more detailed occupational group was shown by its mean, median, first and third quartile. This study is entirely a survey on absolute wage levels of the region. No comparison with the wage rates in other areas was made. Presumably, this information is available from similar studies carried out in other parts of the state.

Case 3S-1: This is one of a series of biennial studies of wage rates in a state. This number was completed at the end of 1964. "The primary purpose of this study", as stated by the agency, "is to furnish the State Personnel Department with current rates found in selected occupations." Using the data as reference, the State Personnel Department can develop an adequate schedule for wage rate paid to the State employees.

All together 586 firms were selected randomly from the state lists of establishments in both manufacturing and non-manufacturing industries as sample. Direct contact was made between the staff of the local employment security offices and the representative of the firm in obtaining the data. Throughout the survey, the wage rate referred to was on a weekly basis. Hourly wages were multiplied and monthly and annual wages were divided in order to derive the standardized weekly wage rates. Data were not boosted. They were: By the state and various local areas, weekly wage scales and average earnings for 34 selected occupations. Adjunct to these, for the state alone, there were statistics for : (a) average weekly earnings for selected occupations, by industry division; (b) average weekly earnings for selected occupations by manufacturing division; and (c) average weekly starting salaries for selected occupations by industry division.

Comments

The most economical and accurate method for obtaining wage information is from establishments. Aside from the usual sampling problems connected with anything less than a census of the universe, a number of conceptual problems remain. One deals with the matter of fringe benefits. These are often difficult to quantify (particularly ex ante) either in cost to employer or in benefit to employee. To take an extreme example, a pension plan may be of no benefit to most employees in a high turnover industry. Another deals with the question of including or excluding certain firms because they are "atypical," as was the case in 3R-1, where an installation of the U.S. Atomic Energy Commision was excluded for this reason, or because inclusion would clearly identify the establishment and thus reveal confidential information. The atypical firm is as much a part of the wage structure of a given labor market as is the typical firm, especially if it hires employees with skills similar to those hired by typical firms, and is likely to have an impact on local wages. If its inclusion skews the statistical series, such skewness can be shown and properly attributed by calculating the series with and without the atypical firm. As for exclusion of certain data because they clearly identify an employer, this is a political problem. If omission of such data seriously affects the results of the study, the problem must be solved in some fashion, or else the study becomes only of limited usefulness.

It is also important that wage surveys provide relativity, both historical and geographical. Historical data give clues as to trends, although straight line projections must, of course, be avoided. The amount of geographical relativity needed depends on the principal purpose of the study. At the very least, the relevant labor market must be covered; it rarely coincides with political jurisdictions. Employment Security people know this, but it seems to escape county officials and similar local planners. It will be recalled that Case 3R-1 attempted to make selected comparisons with other regions in the form of indexes. Readers of 3R-2, however, would have to contact the State Employment Security agency for comparative information regarding the rest of the state.

Case 3S-1 set out to provide a guide for setting government employee wage levels, and is an example of how a study with an entirely different purpose can serve manpower planners Although anyone with a desk calculator can reconvert the weekly wage scales back to the hourly and monthly scales from which they were derived, given the length of the workweek in each occupation and industry, the raw data would have been useful. Investigators planning a study with a particular function might well ask themselves whether, at little or no extra expense, they can provide results that serve another function.

In passing, it should be noted that wage levels are not the only guides used by workers and employers in making choices. Aside from the supply and cost of labor of relevant skills, employers are also interested in the degree and nature of unionization, not to mention other factor costs. Workers, of course, are interested in the other aspects of the job besides wages. Where some upward mobility is possible (i.e., where the occupation has career aspects), the distinction between entry wages and wages at various levels of progression becomes important. Few wage studies go very deeply into this aspect of the going wage.

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1. Lowell E. Gallaway, "Labor Mobility, Resource Allocation, and Structural Unemployment," American Economic Review, September, 1963, p. 715.

IMPACT OF TECHNOLOGICAL AND STRUCTURAL CHANGE

Ever since the unfortunate word Automation was coined, it has ranked with sex, baseball, and LSD as a popular topic of conversation. The level of such discussion is usually well below discussion of the other issues. Technological change is not a new phenomenon. Furthermore, all innovations, whether or not they involve technological change, create displacements in the sense that they alter the demand for factors of production, including labor. This comment is not meant to denigrate the problems arising from rapid technological change. We merely wish to point out that the impact of the introduction of a computer on 200 bookkeepers is similar to the impact of a plant relocation on two hundred production workers living at the old site. True, on the new site, the plant may provide employment for persons previously unemployed, and so offset the aggregate amount of unemployment created by the move; by the same token, some of the bookkeepers may be retrainable in EDP processes. Many innovations are complex, involving product changes, factor changes, and site changes. Measuring the total impact of such a change presents extremely difficult problems because, in addition to the initial and obvious impact, side effects are created that are not easily traceable to the innovation.

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This is not the place to go into the argument between the structuralists and the inadequate demand theorists of unemployment.[1] It is obvious that in any given area, the impact of a structural change can be quite considerable, and can provide local planners with an important motive to take steps to mitigate or offset it. Hence, studies are called for, and studies were produced. In this section, three studies will be examined: two dealt with structural change in given areas, and one dealt with the impact of a major technological change on a large enterprise.

Case 4R-1: This is one of the several studies done for various labor markets in a changing economy. The community, during the last decade, has been changing from an agriculturally oriented economy to an industrialized one. Manufacturing now provides the major source of income. Agricultural employment has not merely been reduced, but the structure of employment within this sector has also changed substantially. An attempt was made to measure this impact. As for the purpose of this study the agency "hoped that [it] will provide an insight into the resultant impact of a changing farm labor force upon a small agriculturally oriented community."

Probably because of the small size of the region, the agency relied heavily on the Employment Security office for statistical data. All characteristics of agricultural employment had as sources either the Employment Security Agency's estimates or the E.S. 223 Reports. 1961-63 population data were given, but no reference was made regarding its sources. It is presumed that these were also the Employment Security's estimates, since these are not census years. Data on the area's employment by industry were provided by a special E.S.

Survey, conducted in April 1963. However, no discussion on the survey procedure and method was made, and its reliability cannot be judged. Indexes of total bank deposits during the last 5 years were used to show the economic growth trend of the area.

The tabulated data demonstrated only the steady decline of agricultural employment in the region, but did not show the trend of total employment. The increasing population as well as the rising volume of bank deposits suggest that total employment has not declined along with agricultural employment. The study can definitely serve less than what the agency has claimed. This is a case which shows the difficulties of collecting data in a small region.

Case 4R-2: This is a study on the result of mechanization in a rural region of a midwestern state. The scope was narrower than that of the Case 4R-1, since it focused attention on the social and economic effects of the mechanization of cotton farming. No survey was conducted for the study. The agency obtained the information by making contacts with knowledgeable citizens and gathered the statistical data from secondary sources. Since no techniques on methods are available for discussion, we shall instead indicate the sources for types of statistical data for reference purpose.

From "The Bulletin of the State Department of Agriculture and [State] Farm Census," the agency obtained data on: primary crops by acreage for seven southeast counties, 1955-1961; cotton acreage harvested by county, 1955-1961; and cash receipts from cotton marketing, 1955-1960. The Division of Employment Security provided data on cotton production in bales picked by types of labor supply, 1955-1961; seasonal cotton employment, 1955-1961; average wage rates for picking 100 lbs. of cotton (hand picking and machine picking), 1950-1961; and the average annual U.I. covered employment in seven southeast counties, 1957-1961. The other statistics were either obtained from the U.S. Census of Agriculture, 1959 - such as the data on amounts spent for farm machine and labor hired by county, 1949-1959 - or, on population changes, from the Census of Population.

The statistics collected can, at best, show the changes in various aspects of cotton farming but are not sufficient to indicate the extent to which the economy has suffered from such changes, particularly the structural change of employment as a result of mechanization of cotton farming which should be the main theme of study. The only fact which the reader learns is that the region has suffered substantial loss of younger population during the decade of 1950-60.

Case 4R-3: To investigate the labor market problems resulting from technological change and mass layoff, twenty Automation Manpower Services demonstration projects were initiated during 1961-1963. This is one of the projects in which the agency, in collaboration with the Automation Manpower Services Division of the U.S. Employment Service, focused its study on a large insurance company. The rationale for choosing this company as a model was explained by the agency in that: "this establishment, already one of the most efficient in the country in terms of costs per premium dollar, has been engaged for several years in computerizing hand-and-machine office procedures." On the occasion of the company's installation of a large scale computer, the project was proposed under the assumption that the change would cause immediate displacement of workers.

With the hope that the result of this study might be projected to represent a bigger universe, the investigators made great efforts to establish comparability. Consequently, the agency had to bear in mind these questions: (1) Are the effects of change in this study similar to those in other financial institutions and in manufacturing industries: (2) What are the managements' concepts of the new technologies and their application? and (3) What was the technological status of any organization prior to change? The method was to utilize the available conventional classification techniques. These included the D.O.T. descriptions and coding strcture, and the traditional staffing and job analysis schedules. Also, reference was made to the labor market information and the local market skills survey for comparison of the trends of the insurance company with those of the local labor market.

Two approaches were used. One was to obtain complete end-of-year employee data for the last 6 years (1956-1962) from the company payroll records. This gave an overall picture of "before and after" computer conversion. The other was to study the immediate "before and after" personnel data of the departments mostly affected by the computer. For preparation of the staffing pattern in the second approach, reference was made to the current D.O.T. However, some problems were encountered in the classification of clerical group since the D.O.T. did not indicate skill levels for this group. The agency has pointed out that both the 2nd and 3rd editions of the D.O.T. are useful only for job referrals and are inadequate for research purposes as they fail to give a logical structure of jobs in clerical and professional groups. In view of the limitations of the D.O.T., the agency suggested that future research projects studying clerical jobs should use the functional occupation structure used by Occupational Analysis Field Centers or to set up their own job classifications relevant to the purpose. In this study, however, efforts toward reconciliation were made by grouping the jobs into the D.O.T. Part IV, Entry Occupational Classifications structure. This worked out reasonably well. The agency's stress on the detailed characteristics of the clerical group was based on the original assumption that this would be the group affected mostly by the electronic data processing. This shows the prudence of the agency although the assumption has turned out to be wrong.

With a hope that it would be useful for others, the agency listed the points of study covered in the interviews; they are: (1) Structural changes; (2) Changes in employment;

(3) Changes in turnover; (4) Degree of mechanization and efficiency prior to change; (5) Changes in equipment and techniques, potential changes; (6) Area of utilization of new equipment and techniques; (7) Changes in product line or service, potential changes; (8) Changes in work load, productivity; (9) Amount and type of planning for the changes that affect employees; (10) Training and retraining; (11) Testing; (12) Changes in worker status and characteristics; (13) Hiring changes; (14) Occupational changes; (15) Effect on agencies, branches; (16) Effect on other firms; (17) Effect on Employment Service.

The result of the study show that there were no immediate layoffs. This might have been due to the policy stated by the company that no layoffs of permanent home office personnel would occur after introduction of electronic data processing. Also, the counseling, testing, and placement services offered by the State Employment Services to the company might have minimized any other worker displacements. However, this was not the whole story. It was found that the impact had been strong on new entrants. Available positions were being reduced despite increasing volume of business. The more gloomy fact was that these trends were expected to continue.

The high quality of the study shows that the agency has done good research work on the impact of technological change of the insurance company concerned. However, there is yet a question that whether the findings of this particular study can really serve as a model for other industries.

Some Comments

Each of the 3 studies on the impact of technological change which we have examined has its own limitations. Case 4R-1 and 4R-2 suffer from the bare fact of lacking statistical data. As a result, and, despite the efforts of the agencies' utilizing other available data, both the studies failed to provide an insight to the impact of technological change. However, to insist on a thorough presentation of statistical data on the impact of change of technology in a local region, we might have asked more than what is reasonable. For this requires not only the current statistics of total employment, but also data by detailed industry and occupational breakdown. Certainly these data are non-existent in many local regions, let alone in a local rural area.

Case 4R-3 suffered from no such limitations as it was a case study of a large company. Both current and historical data were available from the company's own records. This allowed easy tracing of the change in employment by types of workers. The only difficulty in this respect was that it required careful reconciliation among the job titles familiar within the company and those specified by the D.O.T. This was done to make the results useful for general references; the study was intended to be representative not only for insurance companies, but also for other financial institutions and possibily, manufacturing industry. Nevertheless, despite the great efforts at assuring comparability by adjusting D.O.T. codes, it remains questionable whether the study served to indicate or support any general manpower policy. It does not require a study in depth to determine that when a labor saving technological change is introduced along with a guarantee of employment for present workers (whether made unilaterally or collectively bargained), the resultant unemployment is exported in the form of reduced employment opportunities for others. Craft unions have known this for a hundred years. If a given level of unemployment is accepted as the price for progress, the question of who shall bear the burden is a matter of political choice unless it is left to the workings of the labor market. When experienced workers are laid off because their skills are obsolete, the functioning of the labor market can be improved by information and retraining policies. Active manpower policy to mitigate the burden on new entrants and the hidden unemployed requires, as has been pointed out earlier in this work, considerable information, since the impact of technological change is not so easily traceable there.

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[1] The principal investigator sides with the latter group; his assistant disagrees with him.

LONG TERM UNEMPLOYMENT

In 1961, Congress passed the Temporary Extended Unemployment Compensation Act in an attempt to cope with the problems arising from the fact that a large number of unemployed workers had exhausted their UC benefits but continued to be unemployed. The Act enabled states to extend the benefit period by an additional thirteen weeks at federal expense. Section 10 of the Act required states to make studies of the claimants who drew benefits under this program. It was hoped, presumably, that information so obtained might be useful for further policy making to reduce what, by then, were extraordinarily high levels of unemployment when compared with earlier experience. Although we do not know of any policy-making use to which the findings were put (perhaps this was an instance of the political gambit of making a study when action is not desired), we examined these studies to see what could be learned from them regarding techniques for gathering manpower information. On the whole, the studies were disappointing, except as possible material for doctoral dissertations in sociology or the formulation of public assistance policies. From the point of view of manpower policy, studies of the supply of and demand for labor are more fruitful, potentially, when carried on in a comparable fashion. What is particularly interesting about the TEUC studies is that, despite the fact that all followed the pattern laid down by BES, they varied widely in quality.

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Furthermore, they were not aggregatable, thus making them useless for national policy making. We have selected three studies for the edification of the patient reader; impatient readers are advised to skip this section entirely.

– but I think that [illegible] some national data were published

Case 5S-1: The study is named as "The Long-term Unemployed 1961-1962," and was published in August 1964. Described in the preface, this study "throws light on the characteristics of the long-term unemployed in the State, on their experience under the emergency program, on their sources of support and on the adjustments they made to their unemployment at a time of business recession . In addition to these, the study was said to have provided information as regards the importance of unemployment insurance in maintaining family income and it allowed examination on how the unemployed persons of different family backgrounds were affected by the unemployment insurance law. Also, the agency said that the collected data could help in consideration as whether extensions of unemployment benefits should be given in future or should only be extended to workers with family burden, or such extensions should be totally dropped at all.

The report was completed with 3 different surveys: (1) Survey of the family characteristics of TEUC and regular claimants, (2) Survey of the resources and adjustments of TEUC and regular claimants, (3) Survey of the post exhaustion labor force experience of TEUC claimants.

For the Family Characteristics Survey, the technique used was that developed by the Bureau of Employment Security, U.S. Department of Labor, for the nationwide "Family Characteristics Survey." This technique was applied in 52 states with slight alterations. Data for this survey were largely obtained from personal interviews, and the rest from the local employment security office records.

In order to achieve a high degree of reliability, a 10% sample of TEUC claimants was selected, larger than the minimum percentage required for the national level. The survey was conducted in four different stages spread over the duration of the federal program - from May 1961 to April 1962. These periods were divided into (1) weeks ending May 26, 1961, and June 9, 1961; (2) week ending October 6, 1961; (3) week ending January 19, 1962; and (4) week ending April 20, 1962. The agency has pointed out that the result of the survey would have been different were it a complete count rather than a sample. However, as the sample size was double than that required for a regular claimant survey - 10% instead of 5% - the expected sampling variation should be smaller. One observation on the survey sample is that as it was taken in four separate periods spreading over 13 weeks, it tends to overestimate those claimants who drew benefits for the entire 13 weeks period and underestimate those who enjoyed these benefits for less than 13 weeks. The tabulated data from this survey provided not only the personal, economic and family characteristics of the TEUC claimants, but also their employment history and educational status.

The Resources Survey, like the other surveys, was made in accordance with the questionnaires, instructions and tabulation requirements developed by the Bureau of Employment Security. However, this survey was completed only in three separate periods, namely, the weeks of May 22-26, 1961, October 2-6, 1961 and January 15-19, 1962. The sample size was much smaller than that of the Family Characteristic Survey, about 5% of the TEUC claimants during the week of May 22-26, 1961, and 1.5% respectively for the weeks of October 2-6, 1961 and January 15-19, 1962. All claimants chosen as samples for the Resources Survey were also included in the sample of the Family Characteristic Survey. Data were also obtained through personal interviews. The principal information such data conveyed concerned the sources of support rendered to the claimants and their families and also their financial adjustments during periods of unemployment. For reference purpose, both the Family Characteristics and the Resources Surveys were also conducted on the regular claimants but with a much smaller sample.

To discover the post-exhaustion labor market experience of TEUC claimants, a third survey was conducted. This Post-Exhaustion Survey of TEUC claimants attempted to obtain information on the labor force status of the TEUC claimants after they had exhausted their benefits for 3 months. This was done by sending questionnaires to a part of the sample of claimants included in the Family Characteristics Survey.

In addition to the 3 above-mentioned surveys which provided the main sources of the tabulated data in the study, the agency also utilized data from other sources: (1) The central office records provided data on duration of TEUC benefits. These data were used as references for sample selection. (2) Data on workers in insured employment by industry were obtained from employers covered by the State Unemployment Insurance Law. (3) The 1960 Census of Population provided data on employed private wage and salary workers in nonagricultural industries by occupation, and employed persons in non-agricultural industries by age. Both data on family status of persons who worked in 1956 and their years of school completed came from the publication "Characteristics of Population and Labor Force, 1956-1957," of the State's Department of Labor.

Case 5S-2: This was another study responded to the Temporary Extended Unemployment Compensation Act of 1961. As the length of time an unemployed worker who is entitled to draw unemployment benefits is geared to his base period income, this explains the fact that some regular claimants have been unemployed for a longer period than the TEUC claimants. Thus, the agency stated that "the primary concern of this study is with the characteristics of workers who are unemployed for relatively long periods of time, rather than the peculiarities of the TEUC population per se." However, as the average period of unemployment of the TEUC claimants far exceeded that of the regular claimants who filed for benefits under the Temporary Extended Unemployment Compensation Act passed in 1961.

The data were collected from four different surveys "so as to properly represent the characteristics of the average TEUC claimant." However, the agency has not made it clear that whether these were in fact four surveys for different sets of characteristics or just a series of the same survey spread over four different periods. We presume that the latter case is true. No method of survey was discussed; it is likely that the surveys were made through interviews. Also, the reader is given to understand that a total of 2324 TEUC claimants provided data for the study. But, he is not informed that whether this figure was the universe itself or merely a sample, and, if a sample , what sample size was.

More than half of the statistics were demonstrated by diagrams.. The unique feature of the statistics in this study is that all figures were computed in percentage value. This might be useful for purposes of comparison. However, a drawback of this method of presentation is that the reader will fail to perceive the magnitude of many aspects of the problem.

Case 5S-3: This study contained four surveys undertaken during the period May 1961 to April 1962. The main purposes of the surveys were: 1) to meet the legal requirements of the TEUC Act of 1961; 2) to assist in evaluating this program; 3) to obtain data on the personal and economic characteristics of the long-term unemployed; 4) to provide information for the study of the state labor market, the benefit provisions, the re-development programs, and the retraining and placement services.

All TEUC claimants filing for extended benefits during the weeks of the surveys were interviewed, since their relatively small number - expected to be less than 1500 - enabled elimination of sample choosing. However, the agency made it clear that the characteristics collected represented only those claimants who filed for extended benefits during the survey weeks. These data should not be held to represent all the TEUC claimants of the entire period. Thus, the findings of each survey allowed separate analysis and no effort was made to combine the data together, except the education and training characteristics of the claimants of the last 3 surveys.

The statistical characteristics of this report were divided into four parts. Part 1 presents the claimant characteristics which are classified into (A) family situation and (B) personal characteristics. (A) included data on family status, marital status, size of household, dependents and labor force participation of others in household and (B) has the particulars of sex, age, industry, occupation, educational background and vocational training. Part II deals with the claimants' employment background which concerns their months in the labor force, type of employment, months of employment and unemployment, their drawing of unemployment insurance benefits and exhaustion of unemployment insurance benefits. Part III gives data with regards to the experience of the claimants under the TEUC program. This is done by the two charts labeling: (A) Percent drawing maximum weekly benefit amount and (B) weekly benefit amount augmented. Part IV gives the details on the "special groups" which are the backlog claimants, i.e. TEUC claimants who had exhausted their unemployment compensation benefits under the state programs prior to April 1, 1961, exhaustees of TEUC benefits, claimants filing in local office, and the interstate TEUC claimants.

Summary

Case 5S-1 is undoubtedly one of the most thorough studies on this issue. In addition to the series of 4 surveys the agency conducted surveys on claimants resources and on post-exhaustion of TEUC benefits. Furthermore, the 2 former surveys, namely, the Family Characteristics and Resources Surveys, were extended to regular claimants. The merit of so doing is that it allows comparison of certain characteristics between the regular and the TEUC claimants.

The data collected from these surveys are useful for study of the long-term unemployed, on their age, employment history, educational background, marital and economic status, etc. We have already indicated our unhappiness with these studies. To reiterate, the opportunity was lost to make a national manpower survey based on decent sampling, since no funds were available, even if such a survey were confined only to the unemployed and did not cover hidden unemployment and underemployment.

One thing that emerges strongly here, as elsewhere, is the variation in the quality of work done by various state agencies. National training programs may be indicated for state personnel.

ECONOMIC BASE REPORT

Generally, an economic base report is a preliminary study used for the preparation of a regional master plan. The most important variables it deals with are population, employment, and income. Since such reports, by their nature, involve local and regional manpower data, we included them in our study. d

The aforesaid variables do not have much meaning unless they are broken out in considerable detail. For example, a mere total for the population has little significance in and of itself. Characteristics such as age structure, sex, race, educational levels become vital. Similarly, where employment is concerned, levels of employment by industry, occupation, etc. are needed, and particular emphasis must be placed on industries that are strategically important to the region. Similarly, where income is concerned, it is desirable to have more than just median or per capita figures, and to include such data as distribution of family income by various income brackets, income by type (such as wage, salary, etc.) and by sources, particularly whether generated within or without the region in question. With these matters in mind, let us examine some selected economic base reports.

Case 6R-1: This is a base report for a county in a southwestern state, completed in April, 1963. It was intended to be "a comprehensive evaluation" of the region's economy so that a future plan would be possible. The chief objectives of the project, as outlined by the agency, were: 1) determine current and potential manpower resources; 2) assist in evaluating the overall economic resources; 3) assist in a program of economic development and 4) provide employment counseling and placement assistance to local residents.

An extra effort made by the agency in preparation of this report was that an extensive manpower survey was carried in the summer of 1962 to obtain data on manpower resources. This survey covered 1480 employees in 252 non-farm establishments and 551 applicants who were registered in the 2 temporary employment offices in the county. No mention was made as how the 252 employers were selected. The tabulations show that they represent employers of 7 industries. The 1480 employees were grouped into 6 major non-agricultural occupations in accordance with Vol. I of the D.O.T. oData were obtained through personal interviews with the employers. Statistics collected from this survey were (1) Major occupational groups by industry; (2) Employees by occupational level, sex and age; and (3) Summary of occupational wage data.

The 551 applicants were divided into experienced (378) and inexperienced (172) applicants. The former group were those who had held jobs in the past. Only the characteristics of the experienced applicants were tabulated. These characteristics were: age, sex, education, marital status, physical condition, length of residence in the county, wages required, willingness to commute, willingness to relocate, length of unemployment, presently employed (part time and full time), number who completed some specialized vocational training, number willing to accept such training. It is not clear that how the agency has obtained these data. Presumably, it was through the employment offices' records rather than interviews.

Data obtained from the surveys were used to construct an Occupational Inventory and Occupational Potential. The latter, of course, understates the actual potential, since Employment Service applicant data omit some of the underemployed and all of hidden unemployment. However, the investigators attempted to estimate the county's potential labor supply by the application of labor force participation rates to the population. Since the county's participation rate was considerably lower than that of the state, the statewide rate was used. The choice, it should be noted, was an arbitrary one, useful for a rough guess. Participation rates vary not only with employment opportunities but also with the composition of the population* and are, therefore, not simple tools of analysis.

Case 6R 2: This is part I of a study of a labor market area. Its chief concern was the population, labor force and income trends in the area.

The trend of population between 1900 and 1960 was shown by the data obtained from the Census of population. An attempt was made to project the population to 1970. The agency's assumption and method of projection merit our attention. The assumption for "estimates of future population growth and characteristics in the area, as stated by the agency, was that "economic and social conditions in the county would produce specific age-sex-color death and migration rates in the 1960-70 period similar to the rates for the 1950-60 period and that the trend in birth rate during the 1950-60 decade would continue until 1970." Granting this assumption, the agency employed three methods to estimate the area's population in 1970.

The first method was the application of ratios. First, the 1960 population of each county was divided into age-sex-color groups and added with birth estimates for each group for the periods 1960-64 and 1965-69. These groups were then multiplied by the ratios which should reflect the probable 1960-1970 mortality and net migration movements. The derivation of the ratios was based upon the 1950-1960 experience. The total 1970 population for the area was the aggregate of all groups.

The second method was merely a straightline proportional growth model of total population for each county. The formula used was: $P_{70} = \frac{P60}{P_{50}}$. This means that the percentage increase of each county's population during 1960-1970 will be exactly of that in 1950-1960. The area's population is the total of all counties.

The third method used the following formula which was applied to each county: $P_{70} = \frac{(P60)\ (N_{50-60})}{P_{50}} + M_{50}\text{-}60 + P_{60}$

This formula interprets the assumption that both the natural increase rate and the net migration during 1960-1970 will remain the same as that which prevailed during 1950-1960. (Net migration was derived as a residue through the formula: $M_d = (P_a - P_b) - N_d$ P_a = population at the end of the decade, P_b= population at the beginning of the decade and N_d = natural increase over the decade.) In addition to 1970 projections, estimates for 1965 population were also made. These were simply the averages of the 1960 population with each of the 1970 figures derived from the 3 methods.

All the three methods discussed were guided by the experience of the previous decade. The only differences lay in the different applications of this experience. Method number one was more detailed, since it projected population by age, sex and color groups. Both methods 2 and 3 projected the population by each county total and were somewhat crude compared with the first method. It is interesting to observe that the highest estimate was obtained through method 1 and lower ones for methods 2 and 3 respectively,

As regards labor force, participation rates by 5 age groups for 1965 and 1970 were projected. These rates were straight line extrapolations of the 1950 and 1960 rates and they yielded estimates of the labor force in 1965 and 1970.

On the section on Income, various types of income were discussed. For the labor market area, data for 1959 family income and distribution were published for the 2 counties in the area and the entire state. These were obtained from the 1960 Census of population. For the area alone, average weekly earnings of production workers of selected manufacturing categories were prepared by the state Department of Employment Security in cooperation with the U.S. Department of Labor. Other income data were the estimated per capita income payments for the years 1939, 1947, 1950 & 1958 for one of the counties compared with the state and the wages and salaries paid by industry sources and percent distribution for the same county. These statistics were obtained from studies published by the State University. Perhaps due to non-availability, these data were not published for the other county.

Case 6R-3: In defining an economic base report, the authors of the study consider that "this term is so widely used that it has taken on various meanings and shades of meaning." Economic base reports vary in substance from a simple description of a community to a detailed study of its economic prospect incorporated with a highly theoretical model. The present report is closer to the latter type rather than the former one.

This is a bulky and scholarly study of an urban region of a middle-Atlantic state. The community has been dynamic in the past and is expected to have continuous economic growth in the future in view of certain advantages which the region enjoys. The basic industries in the region have strong growing national trends; considerable attention is given to research on new product; the region is well connected with other industrial and market centers. As our interest is manpower, we shall confine our attention to the parts which are relevant to this.

First, the agency showed the recent (1962) employment structure of the region in terms of covered employment. These data, according to the agency, were easy to obtain. The references on their sources given were questionnaires, interviews, and the State Employment Security Commission. It is somewhat unusual that the Employment Security Commission itself was not sufficient as a source and was supplemented by interviews and questionnaires. However, no explanation was given. Our guess is that the very detailed questionnaires initiated by the agency for use of the employer survey covered these data along with the other characteristics. As regards the non-covered employment (this group includes largely the professional, agricultural workers and the self-employed), data had to be estimated through percentage calculations. The procedure used was not indicated. One interesting part of the study was a comparison of the relative shares of employment and income by (covered) industry group. This information can be useful in counseling so as to encourage entry into high income industries and discourage entry into low income industries.

The survey also sought to ascertain future plans of business enterprises in the area. Questionnaires went to 120 firms employing 20 or more workers. Only 47 firms completed and returned the forms; perhaps the low response was a function of the detailed nature of the questionnaire. The respondents accounted for 70% of the employees in the major industries in the area. The combined estimates of the employers predicted

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a 50% increase in employment from 1962 to 1980. At the same time, a different method of predicting changes in employment opportunities was employed. Past trends were projected for strategic industries. The projections yielded a figure of 76% increase in employment by 1980. The agency making the study preferred the greater figure. Employers' estimates do not include the establishment of new enterprises, whereas projections of past trends take this into account. It may be noted that although the agency's rejection of the employer-based projection was wise, its own projection is open to criticism (although, of course, all projections are). Alternative projections, based on various reasonable assumptions regarding the future strike us as the best approach toward crystal ball gazing.

Case 6R-4: This was one of a series of comprehensive planning studies carried out for a county in a middle-Atlantic state which, during the last few decades, has been transforming from a mining region into an economy with diversified industries. The main purposes of this report were (1) to provide a picture of the changes in the county's population and employment; (3) to provide an evaluation of industrial development in the past; (4) to suggest an economic development program.

The study leaned heavily on the use of published statistical data. These sources included the Census of Population, Census Manufactures, Census of Business and various other government statistics. In addition, and in view of the importance of manufacturing industry in the county, the agency also conducted a survey of the local manufacturing establishments. A total of 88 firms were contacted: 37 gave direct interviews and 51 responded to the questionnaires sent to them. However, the result of the survey is qualitative rather than quantitative. Its nature was to ascertain for the general advantages and disadvantages experienced by the local manufacturers. One of the disadvantages revealed was that, despite relative high unemployment (8.2% in 1960), certain key types of labor were still in short supply. To deal with this problem of inadequate structure of labor supply, several establishment provided training programs for their employees.

The manufacturing sector has become and is expected to continue to be the most dynamic sector in the region. The agency projected total employment in 1990 as a 38% increase over the current 1962 total. This was largely based on the assumption that manufacturing sector would contribute the largest share of job opportunities. Also with the assumption of growing employment and greater participation of those who were currently not in the labor force, the agency estimated that the number of out-commuting workers would decline over time.

As regards population, the region experienced continuous losses during the years since 1930. Out-migration has been the chief cause for this decline. Despite the past trends, population was projected to increase about 18% by 1990 over the

1960 level. The method of population projection was the use of co-hort survival rates by which age brackets were survived by periods of five year intervals. Adjustments were made based on the assumptions that outmigrations would gradually cease by 1990 in view of the expectation that employment opportunities would increase during this period.

The study is a typical consultant work of a fairly high standard. However, one criticism is that the projections were done under a set of rather arbitrary assumptions. A variety of assumptions would have been preferable.

Case 6R-5: This was a study on a city in a southeastern state preceding a series of planning works. In order to serve as a base for future plans, it attempted to provide answers to questions such as: "Who and how many are to be planned for? How much land will be needed for future development? How will the future population affect the demand for community facilities and services? Will income levels be conducive to providing these facilities and services? What is the city's potential for attracting new industry? Is existing industry of a stable and high-growth nature?"

The first part of the study was devoted to analysis of the population trends since 1940 of both the city and the county. Statistics demonstrated include characteristics of age, sex and race distribution. No reference was made about the sources of these statistics. Judging from the fact that they were given in census years, one may guess that these statistics were obtained from the population census.

The agency has also statistics on migration movements by sex, race, and age group for both the city and county during 1950-1960. The technique for estimation was merely adding the calculated natural increase in the ten year period to the base year (1950) population and comparing this total with that of ten years later (1960). The difference in each age group is migration: outmigration is the amount by which the base year population exceeds that of the later period and inmigration occurs in an inverse situation. The brief discussion on the technique gave no details as how the natural increase was calculated. We may add, for reference purposes, that the most reliable source is the birth and death statistics maintained by the local health department and in case that death data were not available, theoretical population data can be derived by using the co-hort survival rates.

Despite outmigration of prime age workers during 1950-1960, both the city and county had an increase in total population during 1940-60. Assuming the past trends would continue, the agency has expected population would increase - though moderately - in 1970 and 1980. The patterns of the projected population were shown in percentage distribution by race, age, and sex groups. The significant point is that due to previous outmigrations of the younger group, percentage shares of middle age groups would be relatively small compared with the other age groups. Shares of the very young and very old were expected to increase as a result of increase of birth and prolonged life span of human beings. Except for this logical statement, no techniques of population projection were discussed.

Having handled the projections of population, the agency went on to examine the employment trends of the economy during 1940-60. All statistics, including that on manufacturing trends between 1954-58, were presumably obtained from the Census. Employment data were shown by both industry and occupational breakdown. 1960 labor force characteristics by age and sex were furnished, with a special table on women labor force in the selected areas. However, no attempt was made to project employment or the labor force. One might reasonably expect these to be included in a report of this size.

In addition to the population and employment analysis, varous aspects of the regional economy were examined. These included trends on retail trade, wholesale, services, agriculture income, etc. We shall not incorporate them in our summary as these are not our immediate interests. One reference may be made, however. The agency, in the section on income distribution, has mentioned three criteria for income measures: namely, (A) mean family income-- total family income divided by total number of families; (B) median family income-- the point which separates two halves of all families into upper and lower income brackets; (C) per capita income - total personal income divided by total population.

Conclusion

We have earlier mentioned that an economic base report is a flexible and broad concept and there is in fact no hard and fast outline within which such a study must follow. However, our examples have suggested that they do not differ much in their scope of study. The real difference is in degree rather than nature. They all examine and analyse the significant economic variables; the only difference is in what details these variables are studied, and what statistical data are used to support the analysis, and how these data are interpreted.

Regarding the sources of statistics, these economic base reports have shown that there was a heavy reliance on the government publications. This is naturally so because the various government agencies are the richest sources of statistical data. However, in many instances, surveys were conducted to obtain additional data, as in the cases 6R-1, 6R-3, and 6R-4. The statistical data obtained from secondary sources should be regarded as reliable, being themselves ex-post data. Survey data collected through the agencies, however, are less acceptable in view of all the possible limitations of surveys: small response, unrepresentativeness of sample, poor estimates by respondents in the case of future requirement, etc. However, the part most difficult to please is projection. The techniques employed were governed by a set of arbitrary assumptions. More often than not, these assumptions were made from the past trends. Thus any deviations for the past performance can

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render this type of "naive model" valueless. Sometimes, as in case No. 6R-4, where consideration of projection was not entirely based on the past trends but on what the expected behavior of certain dynamics in the economy, the projections on population and employment represent the subjective judgment of the agency. *

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* See Bowen and Finagen, op. cit.

STATE PLANS AND OVERALL ECONOMIC DEVELOPMENT PLANS

A. Introductory Notes

Our previous discussions on economic base reports recognized that a base report serves as a preliminary study for an overall or master plan of a region. It is prepared preceding an overall plan so as to provide information necessary for planning. Hence, we often find that content of these two types of studies overlap, and it is sometimes difficult to distinguish the two except from their titles. One criterion, however, we may safely lean on is that while an economic base report is an aid for policy decisions, a plan should be an advocate of policies. Thus, we view this section as an extension of our previous discussions on economic base reports.

B. Some Samples

Case 78-1: This is a 1980 preliminary plan for a state (Arkansas), completed in summer 1964. In the brief introduction, the agency stated that: "This report reviews Arkansas' long-range development prospects and needs. It deals with economic and population growth potentials to the year 1980 and translates these potentials into demands for transportation, land, recreation, and selected public facilities. The findings are, by design, both preliminary and general." This description may apply equally well to any of the economic base reports discussed in the preceding section.

The first part of the study begins with the description of the background of the economy and follows with the analysis of past and future employment trends. Historical employment data by occupation and industry group for the state were obtained from the census of population. The projections were done by the University of Arkansas. Two series (high and low models) of employment data by industry group were projected for the year 1980. Series I (the lower estimates) was based on the state's current industrial growth rates and Series II was guided by the assumption that the state's industries would maintain their relative shares of the total national employment in 1980. However, both models were prepared under these basic assumptions: 1) that there would be no significant natural calamities; 2) the present major social institutions would continue to be the dominant behavioral influences; 3) no major war would occur; and 4) no economic depression. In addition to these, consideration was given to the various trends of the statewide economy. Trends expected to continue are: 1) that there will be movement toward the U.S. average distribution of employment by industry, age group and sex; 2) that existing manufacturing industries will continue to expand and locate in the state; 3) that technological improvement in cotton production will continue with the same rate as in the past; 4) that the rate of increase in personal income will remain constant. Trends expected to change are: 1) those manufacturing industries that enjoy geographical or other advantages will grow relative to the national trends; 2) labor force participation rates will rise to the national level; 3) the occupational structure will change; 4) there will be a decline of out-migrations; 5) there will be less reduction of smaller firms; and 6) unemployment will decline to 5% in 1980.

Following the employment discussion is the section of population. As for employment, the data of the past trends were obtained from Census and from projections made by the University of Arkansas. During 1950-1960 the state suffered net outmigrations at the rate of over 22% -- along with West Virginia, the highest among the 27 states which experienced outmigration in the same period. However, comparison between the 1963 estimate made by the University and the 1960 census figure showed that the state had gained over 3000 persons through migration. In view of this marked contrast of findings on migration movements in the two periods, we feel compelled to raise some observations: 1) Is the 1963 estimate of population accurate? 2) Are there any other economic indicators to support this estimate? Obviously, this estimate suggested a sharp upward trend of economic growth in the state since 1960. 3) This result certainly undermines the faith of accepting past trends as a guide for projection, unless we have perfect knowledge about the turning point.

Like the employment projections, population projections were done in two series (high and low estimates) of data for years 1980 and 2000. Certain assumptions as to birth and death rates, migration movements were made for preparation of these projections, with the last as the predominant assumption. Past experience has shown that there was a close correlation between the national employment trends and the migration movement of the state. Outmigrations occurred when national employment was high and in-migration as a result of low national employment. According to the agency, the net in-migration to the state during the last five or six years was due to the relatively high unemployment rate that prevailed over the country. While the actual population in the projected years would fall somewhere between the two series, the difference is big with the two models. Series (A) the low estimate - shows an increase of about 10 percent population between 1960 and 1980 and Series (B) shows an increase of about 40% for the same period. As explained by the agency, "the two series of projections for 1980 differ only in the assumption of the migration factor." Series (A) assumed that net outmigration would be one-half of that occurred in the 1950-60 decade and Series (B) assumed no migration movement. However, same birth and death rates were employed for both models Birth rates were the actual statewide rates of 1955-57, adjusted gradually to match the national fertility rates by 1980 The death rates that were used tally with those projected for the U.S The projected total population of the states was further distributed into 5 regions, based on the previous migration rates of the individual regions. This may be a good consideration for regional manpower planning.

The remaining part of the study dealth with land use, public utilities, transportation, and recreation activities. It is omitted in our summary.

Case 7S-2: This is a progress report and summary interpretation of the first stage of a California state development plan. As the original plan was prepared through various studies undertaken by different agencies, it would be too much a cumbersome job to examine all of them.

The plan is considered to be the most searching study yet undertaken for this dynamic state. Phase one was scheduled with a series of overall studies of the basic population structure and economic structure of the state as well as studies on the state's sources of capital agriculture and forestry. Again this sounds pretty much an economic base report in multi volumes which we are familiar with. Various types of data collected in this phase of study would be useful for later stages of state planning and development.

It is a pity that, being a progress report, this publication does not present much data apart from occasional references made to certain findings. Though it is noted that projections of population and other variables had been attempted, no methods of projection were discussed. As California has been in the last 15 years a state of great attraction to in-migrants, migration movements should be held as a factor of primary importance in shaping models of population projections. It should be interesting in view of this experience, to know what assumptions were made on future migration trends by the technicians who undertook the projections. But this is not discussed in the present report. However, the agency observes that one component of the past immigrants has been scientists, engineers and highly skilled technologists. These workers though they formed but a small portion of the total immigrants, compared favorably in the national component. Should the job opportunities in the state continue to increase, California may yet remain as a port for migration to these workers. However, their migration to the state would cease should the state fail to provide them employment. Thus, the state has a mandate to maintain continued employment and income growth to accommodate its potential labor force. Without seeing the absolute projected figures of population and being informed of the assumptions adopted for such projection, judging from the distribution by age groups of the projected 1980 population, we have reason to infer that projections were made under a very conservative assumption that in-migrations would decline in the future. This deduction is based on the observation that percentage share of population in the prime working age brackets (25-54 yrs.) in the projected 1980 total is smaller than that of the actual 1960 share. However, we need to refer to the original work to verify this presumption.

(9-1)

We must admit that the above two studies which we here summarized are poor examples of state plans. The former (Case 7S-1) is a preliminary plan, while the latter (Case 7S-2) is merely a progress report. Their contents are far from what one should expect from a rigorous overall state plan. However, since both were easily obtainable, we examined them as a matter of convenience. In the remaining part of this section, we shall direct out attention to a selection of overall economic development programs. These studies are better known by their abbreviation, O.E.D.P.

C. Nature of an O.E.D.P.

Overall economic development programs were popularized by the Area Redevelopment Act of 1962. The Act required that any region applying for Federal economic aid must undertake an overall economic development program. Hence, an O.E.D.P. is essentially a study of a region on its economic problems encountered its economic resources - both human and material. Quite often, an O.E.D.P. also furnished recommendations for attacking the economic problems and suggestions for local economic development plans. Again, this type of study is very similar to an economic base report.

D. Some Overall Economic Development Plans[1]

Case 7R 1: An O.E.D.P. prepared in October 1963 for a county in a southern state under the requirement of the Area Redevelopment Act. This is a predominantly rural area with very low income. The fact that per capita income for the county in 1960 was only $420.00 compared with $1,338 for the state and $2,242 for the U.S. suggests the dimension of the economic problems this county has. One-third of the population received surplus welfare commodities at the time of the study and 9% received direct cash grants from the State Welfare Department. The county's population declined 10.9 percent and 15.3 percent respectively during the periods 1940-50 and 1950-60. The outmigrants comprised mainly the younger age groups. As a result, the pattern of population distribution has been greatly distorted. Median age in the county population rose from 21.8 years in 1940 to 25.1 years in 1950 and 34.8 in 1959. The sharp decline of agricultural employment during the 50's (about 50%) had brought down total employment by 23% despite non-agricultural employment increased 25% in the same period.

The 1959 data quoted above were obviously obtained through the manpower survey conducted in August 1959, though no specific reference was made. The survey was rather thorough: apart from population by age group and marital status, labor force status, characteristics obtained also included average number of hours worked by type of work. Again, in April 1960, a survey of employees was made. From this survey, it was found that 32 percent of labor force commuted less than 30 miles for work. The agency termed this portion of labor force as surplus labor and they all resided in rural areas. All employees were divided by skilled and unskilled and shown by sex breakdown. No discussions on either survey procedures was made.

It is not clear why analysis of population and employment was limited to the two surveys conducted. By the time of the publication of this report (which was Oct. 1963) the 1960 population census was available to the agency. Surprisingly, no such census data were utilized. The only possible explanation is the study was done much earlier than the date of publication.

Case 7R-2: This is an O.E.D.P. prepared for another rural county in the above state. The study as a whole is a description on various aspects, both economic and social - of the county. Only its study on human resources should demand our attention here. In this county, over 65% of the population live in the rural area. Of the 24,200 population in 1959, about 37% were non-white. During 1950-1960 agricultural employment dropped 63.4% while non-agricultural employment increased only 14.3%. The heavy impact of decreasing agricultural employment resulted a loss of 5.6% population (mostly young workers) and consequently 13% labor force of the county.

In a recent winter, a complete-count labor force survey was conducted in the county. The survey was done in order to ascertain the labor supply for a factory to be established in the community. The factory would create employment for 250 machine operators. The result of the survey showed that there were over 3,000 persons looking for jobs and more than half were females in the 18-45 age bracket. The agency seems to suggest that actual underemployment possibly exceeds this number when it points out that complete coverage was prevented by cold weather. However, reference to the unemployment statistics shown in an appendix table creates doubts regarding the finding of the survey. The data in exhibit 7 shows that in June 1962, only 454 of the 12,230 labor force were unemployed - a rate of 3.7% Among the 4,612 in covered employment, only 192 (4.2%) were unemployed. It is a pity that the date of the survey is unknown but our guess is that it could have been taken in the winter of the same year. Even it was not, we consider that the figure of "3,000 unemployed workers" should be accepted with reservations. This figure must have included the under-employed (those not satisfied with the present jobs or holding only part time jobs) and the hidden unemployed

Discussions in this study are casual and desultory. On the whole, they provide not much value for our purpose except in regard to the conceptual difficulties regarding the term "unemployed."

Case 7R-3: This is an O.E.D.P. of a county in a western state made by a professional consultant. The outline of the study covered discussion of the problems in the economy, its future job and investment needs, resources potentials, and obstacles for economic development and a recommended program. This appears to be a systematic approach.

All the statistics (except projections) came from published data: main sources were the U.S. Census of Population and the State Department of Employment. The Census population data showed that since 1930 the county began to experience a decline in population. During the period 1950-60 alone population declined from 10,549 to 7,867, a loss of over 25%. It was estimated by the agency that about 3,600 persons, mostly younger ones, had migrated from the county during 1950-60. However, no method of estimation on migration movements was discussed by the agency. While population declined about 1/4 between 1959 and 1960, labor force declined about 1/3 from 3,259 in 1950 to 2,280 in 1960. In table 3, which gave statistics on the trends in employment and unemployment, it was shown that the labor force declined even further to 1,690 in February 1962. This suggests that population continued to decline in the early 1960's. Without knowing the age breakdowns of the population in the county, it is difficult to estimate the participation rates of the 14 years and above. However, we may roughly guess that the rates have been low. Later, in a paragraph on labor force participation rate, the agency mentioned that only 41.7% of the 14 years and 20% of the females (14 years and over) were in the labor force. These rates were much lower than the statewide rates. But no reference on the year was given.

It was considered by the agency that should job opportunities be growing along with population growth, out-migration could be checked. The past experience of population loss attributed to lack of job opportunities. To estimate the number of jobs required by 1970 to absorb the growth or population, 4 models were made on population, labor force, total job, and new investment required. Model I was built based on 3/4 of the 1950-60 outmigration rate; model II on 1/2 of the 1950-60 rate of outmigration; model III on only 1/4 of the rate, while model IV assumed no outmigration at all. For all these alternative models, as set constant assumptions were given: 1) a natural increase rate of 13%, which was the same as what experienced in 1950-60, 2) a labor force participation rate of 36% and 3) an unemployment rate of 4.5%. Both were the actual rates for the state's non-metropolitan areas in 1960. The new investment required by 1970 was calculated from the assumed average investment for worker of ¢6500. Even though it was not discussed by the agency, this method implied a constant average capital/labor ratio. This assumption is crude and is not quite true to the historical trends. However, it at least shows the direction of change of investment along with change of employment.

Table 8 is an interesting table in which the agency showed the ratios of employment to 1,000 population for selected industry groups in 1960 for the county and non-metropolitan areas in the state. The ratios were computed from the 1960 U.S., Census of Population data. Holding these ratios constant, it is possible to derive a crude estimate of 1970 employment in various industries based on the projected population. However, the agency did not attempt this.

In the section on obstacles to economic growth, the agency mentioned inadequate labor supply as one of the limitations. In 1950 nearly half of the labor force were engaged in either the agriculture or mining sector. As employment has declined in these sectors, few of the surplus workers were able to find employment in other industries because of age or lack of skills. Statistics obtained from the State Department of Employment on distribution of employment by industry and occupation in February 1962 showed a heavy proportion of semi-skilled and non-skilled workers. Among the 185 unemployed workers (8.5% of the county labor force) in February 1962, 45% were in contract contraction and 18% in agriculture sectors. This shows apart from the skill problem, the seasonal factor is also a cause for unemployment in the county.

Case 7R-4: This is an OEDP prepared by the Civic Improvement and Development Council of a northern county in a state in the deep south. The county had a population of 7,700 in 1960 with about 50% non-whites. During the 50's, the county had suffered loss of over 11% population. In the same period, there were marked differences of unemployment rates: an extremely low rate of .7 percent in 1950 and a high rate of 13.2 in 1960. Due to nonavailability of the series of trend data, there are no means of judging whether unemployment rates had been fluctuating or increasing secularly. Also, the agency did not give an explanation of the unusually low rate of .7 percent in April 1950. The relatively low rate of 5.1 percent unemployed in April 1962 shows that the economy has improved its lot since 1960 In addition to the unemployment, the agency believed that there were also under employment during the 50's although it had no statistics for the exact number. The guess was supported by the low median income - $490 per annum - of the non-whites in 1959. It is not clear whether the figure is for families or per capita.

The population projections for the county and the state to 1985 were done by the State University. Four models were prepared under different assumptions. The agency shows only the second model of the projected 1970 population for the state and the county in the study. The basic assumptions for this model (Series 2) are: 1) mortality will continue to decline in all State Economic Areas at the same declining rate that occurred in the nation during 1930 1954; and the death ratios of certain age groups between the state and the nation that prevailed in 1949-1951 would remain constant. 2) birth rates in all State Economic Areas would remain at the 1940-50 high level. 3) The various net migration rates in the State Economic Areas prevailed that in 1940-50 would continue. (It is not understood why the projections were done with heavy reliance on the 1940's experience but not that of a later date.) This model, while it shows that the state's population will increase about 7% from 1960 to 1970, indicates that the population of the county will have a slight decline in the same period. The estimate was checked and approved by the county's technical .

panel. This shows that the outlook of the economic prospects of the county did not appear to be bright at the time of preparation of the study.

Case 7R-5: The lagging growth in a county of a southwestern state, necessitated the preparation of an O.E.D.P. to facilitate future plan for economic development. This county, situated in the southeast part of the state, is a predominantly rural area. Even in 1960, agricultural workers shared more than 50% of the total employment. Since 1930 there has been a secular decline in employment and population. Comparing the 1960 data with that for 1930, population declined 35.2 percent, labor force 45.0 percent and employment 52.3 percent. Even the percent of population in the labor force declined 15.2 percent. This suggests that a discouraging effect on participation rate due to few job opportunities has been at work. The result of heavy unemployment was low per capita income. For the last three decades the per capita income of the county had an average of about 50% of that of the state.

Despite of the past trends, the agency has estimated slight increase of population, labor force and considerably increase of employment by 1970. Indeed, all 1970 estimates on various economic variables made by the agency show improvement over 1960. These estimates were made partly based on the consideration of proposed new plants and establishments in various industries. But the agency gave no explanation as how the overall projections were made. The fact that the agency has even projected an increase in agricultural employment in 1965 and 1970 is hardly convincing. This has aroused suspicions as how valuable are the other projected data.

Case 7R-6: In a somewhat different sequence of study, this O.E.D.P. of another county in the same state begins with the section on human resources. Since the 1940's the county has experienced a slight decline of population. Increase of urban population within the county has not been enough to cover the loss of population in rural areas. An unusual phenomenon of the age distribution of the county population is that the share of the 65 and above has been increasing substantially since 1940 from 7% to 13% in 1960. As a result, the civilian labor force declined relatively to population during 1940-60.

It was estimated that during 1950-60 the county had a net outmigration of 9953 persons, about 15% of the 1950 population. Should this trend continue by 1965 there would be a further loss of 4,700 persons in the county and by 1970 a loss of 9,400 inhabitants. The 1950-60 population loss of 5.7% was extrapolated to 1970, with the note that this loss would be at a lower rate than rates likely to prevail in other counties of the state.

Holding the 1962 employment and population ratio constant, the agency has also projected employment for 1965 and 1970. Again the unusual frankness of the agency is shown from the projections of employment and unemployment using 1962 as a year of base reference. In 1962 the county had an annual unemployment rate of 10 percent. Both a constant ratio of employment and population and a rate of 10 percent for projection of unemployment assumed that the economy would not be improved in the following eight years. However based on the projected unemployment figure the agency has opened an alternative that should job opportunities be increased to certain amount, unemployment rate could be kept down to 6% or below.

The projections of population, and by the same token that of employment, appear to be extremely crude. These were simply extrapolations from the 1950-60 overall rate of change and no separate considerations on natural increase and migration rates were given. This is one of the least sophisticated models of population projections.

In a later discussion on the need for additional job opportunities, the agency mentioned that a recent survey made by the Chamber of Commerce showed that "there were 4,780 applications for 2,000 jobs." However ambiguous this statement is, without mentioning time dimension, it reveals the existence of substantial underemployment as well as unemployment in the county.

Case 7R 7: This is one of the O.E.D.P.'s prepared with the least use of statistical data. It is a study on a county in a border state completed in March 1964. It is surprising to observe that, except for a few farming characteristics, there is nearly complete absence of other important statistical series, such as population employment and unemployment, income, etc. Indeed, the reader is not given any characteristics of the population - its trends, age, sex distribution, etc. - except one casual remark on the 1960 total population. The only table on manpower gave data of employed and unemployed labor force by sex and residence. Data were from an industrial survey conducted by the Chamber of Commerce and the local employment office. But no date nor the scope of the survey have been mentioned. On the whole, the report is full of casual discussions of minor issues while more important aspects of the economy have been ignored. It is an example of the lack of expertise characteristic of many O.E.D.P.s.

Case 7R-8: This is an O.E.D.P. for a county in the south. One characteristic of this county is that the population of the whole county is rural. The declining employment opportunities caused over 28 percent of the population outmigrated during 1950-60. More than half of these outmigrants were in the age groups of 15-29 years. As a result of migration, the total population declined 14% from 1950-60 even though the state had gained 20 percent of population in the same period. The county was undoubtedly among the most distressed in 1961, as over 25% of the population received surplus foods while the next county with highest percentage was only 15%

of population receiving these aids.

On the study of human resources, the agency conducted a survey in the county prior to preparation of this O.E.D.P. Data were obtained through questionnaire forms distributed to teachers and students of the 53 public schools in the county. Also, forms were passed to households with no children in schools through their neighbors. Over 50 percent of the households in the county completed and returned the questionnaires. Characteristics collected were: 1) Employment Status of Resident; 2) Number of Employed Persons by Class of Workers; 3) Percent Distribution of the Total Employable Civilian Labor Force; 4) Percent Distribution of the Number of Workers Reported as "Employed," " Experienced Unemployed" and "Unexperienced Unemployed." 5) Number of Employed Persons Reported Per Household. These characteristics, without being inflated, were tabulated by 5 areas.

One observation raised by the agency conducting the survey was that many heads of households in response to the questions on unemployment, only reported the "experienced unemployed" but ignored the "unexperienced unemployed." This would lead to underestimation of the unemployed. Especially in the county under study where few job opportunities were provided to women and young people, omission of the actual and hidden unemployed from these groups substantially distorts the total unemployment picture. Thus the agency was obliged to show the aggregate of the reported unemployed and those status not reported as "Presumed unemployed." This last term was supposed to represent the total unemployment as per the returned questionnaire. What we have here is an illustration of the difficulty of obtaining data through questionnaires, expecially from a rural area. The investigator, however, showed more imagination and care than was common in O.E.D.P.'s

E. Summing up.

None of the O.E.D.P.'s we have examined can be held seriously as a good study on manpower in a region. It is true that nearly all the O.E.D.P.'s cover the region's problems as well as its resources and other aspects, and generally human resources are only one of the resources under study. The studies seldom made any detailed examination of the qualitative structure of the labor force, apart from merely quantitative enumerations of the population, employment and unemployment.

Like all other economic studies, these O.E.D.P.'s have their main sources of statistical data from various Censuses and state employment security offices. In addition, or as a substitute to these sources, surveys on labor force were conducted in the cases 7R-1, 7R-2, 7R-7 and 7R-8. The surveys in R-1 and R-8 are much more detailed than those in R-2 and R-7. However, they are far less extensive as any ordinary manpower skill surveys which we have earlier seen. Probably due to the fact that the regions under study are rural, none of the surveys has given labor force data by occupational breakdowns.

Four (cases 7R-3, 7R-4, 7R-5 and 7R-6) more ambitious O.E.D.P.'s have made population projections. However, these projections are essentially made from somewhat naive models based on the arbitrary assumptions that the past experience will continue. Only in Case 7R-5 has consideration been given on the planned establishments for projections. With the understanding that projections are most difficult to please especially for small regions where mobility is great. Lack of many data required and the existence of primitive techniques greatly discredit any projections made. However, recent literature is thriving in this field and we hope satisfactory methods would be developed before long. We feel that any harsh critcisms would do injustice to those who have shown ambitions in such adventure.

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1. For a thorough study of the A.R.A. experience see Sar Levitan, Federal Aid to Depressed Areas, Baltimore: Johns Hopkins Press, 1964.

JOB VACANCY DATA AND THE QUINQUENNIAL CENSUS

We have indicated that published manpower data studies analyzed by us leave a good deal to be desired, not only in terms of methodology but also in terms of the gaps in the needed information that many contain. We turn now to a discussion of the potential that regualr nationally conducted job vacancy studies may have for purposes of estimating labor demand, and of the usefullness of mid-decade censuses of population for estimation of the supply side.

Job Vacancy Data

Roughly, we may define job vacancies as the number of unfilled job openings which the employers are actively seeking for qualified personnels to fill the jobs. The importance of job vacancy data in regard to both demand and supply of labor services has recently aroused great attention. The fact that our existing labor statistics are unsatisfactory for some purposes in due to the lack of some crucial information, among the most important of which is job vacancy data. Such data have many possible uses some of which are listed below.

1) While disclosing the unmet needs for labor by occupational breakdown, job vacancy data can promote better allocation of a given labor force. Availing themselves with the job vacancy information, those unemployed would be referred to where jobs are and those currently engaged in works below their capacity would be able to choose the more suitable jobs. This would reduce unemployment as well as under-employment.

Namely, job vacancy data threw light upon the disequilibrium between the supply and demand of labor in a stock sense and helps to generate flows to achieve equilibrium.

2) Job vacancy data, when provided for a period ahead, say two to five years, would facilitate planning for labor supply. The employers, while being aware of the future needs, are stimulated to evaluate their on plant training programs. On the other hand, local vocational training courses may be adapted to meet the future skill requirements on the light of the information suggested by the ex ante job vacancy data.

3) Vacancy data can also help in job counselling services for the new entrants to the labor market.

4) Job vacancy data enable more effective administration of unemployment compensation as they would help to decide whether the case of unemployment is voluntary.

5) Other than better allocation of labor services, job vacancy data can also help in achieving better allocation of capital. This is so because they would influence business firms in their plant expansion or contraction policy and expecially the choice of location for establishing new plants.

6) Job vacancy data, when collected for period co-extensive with that of unemployment data and in comparable occupational breakdown, might provide a clear background for analysis of the unemployment condition in the economy. The evidence yielded by these data would be invaluable in the debates between the structural unemployment school and the insufficient overall demand school of economists.

7) When interpreted differently, job vacancy data may serve as a kind of index for the performance of the economy and the tightness or looseness of a labor market.

So much in regard to the uses of job vacancy data. The collection of these data, however, has problems both conceptual and operational. First, as we previously defined job vacancies as unfilled job openings which the employers are actively seeking to fill with qualified personnel, this simple definition may still create difficulties in practice. In some cases an employer may not "actively" seek for people if he has the impression that such workers may not be available or if he comes across a cheap but potentially promising worker, he would readily have this man recruited; both these cases will slip from our definition. Second, if the job vacancy data are to be useful, collection of such data should be as complete as possible and by regional level. Merely a comprehensive coverage on the national level tells nothing but the total unmet labor requirements. Unless collected on regional basis, such data would not be effective in directing the flows of labor supply to the specific areas where there is shortage of certain types of manpower, a function which we have mentioned earlier. However, the cost for regional data may be high. While some other types of information would be adequately collected through sample survey, this is not so with job vacancy data. Other than a complete count, any size of sample is less then satisfactory in view of the heterogenity of job vacancies: their occupational breakdown, classification of firms, wages offered, skills, experience and other specific requirements by different employers. Third, the general belief that the personnel office is the only place to approach for job vacancy data in business firms is not entirely correct. The experience of one study[1] shows that some firms may not have a personnel office and even among those who have, relatively few suggested the personnel departments as sources for data. And the persons who provided job vacancy data ranged from president to secretarial staff. In some firms contact with more than one persons was needed to obtain data for the firm. Fourth, the vacancy data provided by various firms are not classified according to a standard code of occupational breakdown. Each firm may have its own titles of job and as a result this creates tremendous difficulties in aggregating. Obviously, the same occupational title may differ among firms and industries. So far, we have not seen a direct solution of this problem. The president's Committee to Appraise Employment and Unemployment Statistics[2] has recommended a precoded list of occupations be developed through discussions of industry representatives. This seems a sensible solution for the problem provided that the list be not so tedious as the employers would shun from using it. Fifth, due to lack of formal records held by many business firms, it is doubtful how valuable the data collected from these business organizations are. At best, they should be regarded as estimates. In view of the absence of formal records of job vacancy data, there exist also no trend data. But these data, if available, should be very useful for analysis purpose. Sixth, some employers, while being afraid of uninvited referrals, may decline to give reliable job vacancy data. Seventh, for manpower training policy, ex ante job vacancy data are imperative. But most firms may not be in a position to make forecast for manpower requirements. Except the large firms which employ sophisticated economists to do the forecasting, small firms have no way of telling what will be the level and structure of employment in years ahead. If these firms are approached for ex ante job openings, the figures provided are merely a guess rather than a reliable forecast. This may frustrate any attempt for manpower planning.

We may now go back to examine the skill surveys which we have summarized earlier and see how job vacancy data are handled in these surveys. Among the 6 samples chosen, only two, iS-1 and iR-1, have shown current job openings by selected occupations as at the time of the survey. The others have shown only the future additional requirements of workers. This evidence suggests a serious need for development of job vacancy data.

The study, case number (IR-1), concerns selected occupations in a labor market area. The occupations selected however according to the agency, "were suggested by several sources, mainly: the 1960 U.S. Census for the Philadelphia Labor Market Area and releases of the U.S. Department of Labor: (1) Selected Occupations for Training or Retraining Office of Manpower, Automation and Training, August 1962, (2) Youth

Employment Opportunities Survey Handbook, 1962; and (3) Occupational Outlook Handbook 1961 edition; and inventories of job openings and applications on file in area offices of the Pennsylvania State Employment Service."

Without memtioning the reference for selection but with a list of description on various occupations, the study (1S-1) also shows the same data. However, as the choice of occupations in two studies obviously was based on different judgement, the occupational breakdown, while suggesting similarity, create some discrepancies in terms of number as well as title. This would lead to a considerable job for reconciliation if one is to use both sources of data.

In view of this, we feel that the lack of standardization of occupational titles is a limitation for efficient use of job vacancy data. And the President's Committee to appraise Employment And Unemployment Statistics whose recommendation for a precoded list of occupations be developed by representatives of various industries seems to be a reasonable solution. We believe that this list, if well designed, would be invaluable for job vacancy data study as well as useful for the study of supply and demand of labor.

The ex ante job vacancy data provided by these two and the other surveys, as they all suffer from the limitations which we have previously discussed, may at best be used as a guide but not a goal in serious manpower planning. Improvement in both current and ex ante job vacancy data is a big step toward perfection of manpower statistics.

The Quinquennial Census

For several years the suggestion has been made that partial or complete Censuses of Population be made in mid-decade. At Congressional hearings held in May, 1965[3], a number of state government representatives strongly urged that the bill establishing a 1966 Census be passed. One of these, Miss Genevieve Blatt, pointed to the high rate of population mobility and stated that population shifts are accentuated tremendously at local levels.[4] While suggesting that a 25% sample might suffice for large areas, a 100% sample was needed in smaller areas where "the most rapid changes are taking place."[5] It should be noted that some of the finest methodological work done on local data problems was sponsored by the Pennsylvania Department of Internal Affairs during Miss Blatt's tenure as Secretary.[6] Mrs. Eone Harger, speaking for New Jersey, put the reasons for her agency's need quite succinctly:

1) The decision making process is dependent upon current and reliable population information.

2) The Federal census is the most reliable information available.

3) The need for intracensal information requires the use of estimating and short-range projecting methods which are at best, subject to question.

4) The repid population changes occurring in the United States make population estimating and forecasting even more subject to possible error.

5) The areas of the country where these rapid population changes are occurring are precisely those areas where planning and intelligent decisionmaking are most important.

6) A quinquennial census would provide a most valuable service in the planning and decisionmaking process in that it would make available reliable information at 5 year instead of 10-year intervals.

7) The items currently in the decennial census have shown their value to exceed the cost of their collection.[7]

The principal objections to a quinquennial census appear to be pecuniary. The cost, it is argued, is not worth the benefit in the light of the expenditures being made on special studies conducted in addition to the decennial census. The cost is estimated at $120 million.[8] If the studies examined in our work are representative, and if the cost estimate is accurate, the argument does not seem persuasive. Given the information needs generated by existing manpower legislation especially in local areas, five year survey data, produced in regular series, can be invaluable. Given standardized estimation techniques, local agencies can be in a better position to make inter-censal estimates, thus enabling them to reduce the number of poorly constructed surveys they must otherwise make. Furthermore, projections based on five year series can be much reliable, since trends are more easily and quickly detected. It would, however, be immensely helpful if census data (decennial or quinquennial) could be made available more rapidly than is presently the case. Computer technology has come a long way since the 1960 Census.

We are, of course, aware of the difficulties of reconciling the establishment data needed for the demand side with the household data needed for the supply side. Again, this is one of those difficulties that are not insuperable, given the rapidly advancing state of statistical and economic knowledge. When data are available, statistical techniques are testable; hence, it may not be wise to defer the gathering of the data until the reconciliation techniques are perfected.

All in all, it is our opinion that nationally gathered job vacancy data and quinquennial censuses can be immensely useful toward the solution of problems connected with the collection of data needed to make local manpower programs and national policy as effective as possible in an economic fashion.

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1. See Robert Ferber and Neil Ford "The Collection of Job Vacancy Data Within A Labor Turnover Framework" in Arthur M. Ross ed. *Employment Policy and the Labor Market*. Berkely: University of California Press, 1965.

2. Measuring Employment and Unemployment, Washington D.C. 1962, Appendix B.

3. "Mid-Decade Census," Hearings before the Subcommittee on Census and Statistics of the Committee on Post Office and Civil Service. House of Representatives, 89th Congress, First Session, May 4, 5, and 12, 1965. Also see the similar hearings conducted by the same subcommittee of the 87th Congress, Second Session.

4. 1965 Hearings, p. 74.

5. *Ibid.*

6. For example, see Morris Hamburg and John H. Norton, *An Evaluation of Selected Data Requirements and Availability for Urban Economic Planning and Development in Pennsylvania.* Commonwealth of Pennsylvania: Dept. of Internal Affairs, 1963.

7. 1965 Hearings, pp. 83-84.

8. Testimony of Dr. Raymond T. Bowman, Assistant Director for Statistical Standards, Bureau of the Budget, Ibid., pp. 39-55.

CONCLUSION

The lack of consensus regarding the nature of manpower policy that has prevailed since manpower policy became an important issue is reflected in the various studies that have been examined in our work. Hundreds of studies poured off the mimeograph machines and printing presses, each attempting to assay the local economy and its manpower situation. The data-gathering mechanism in existence in the 1950's and early 1960's was not geared to meet the demand for local area information. In a dynamic economy, Census information quickly becomes obsolete. The data activities of most State Employment Security agencies had been developed to provide Unemployment Insurance information. Even the newer data, such as area unemployment estimates, contained conceptual difficulties that made the figures poor estimates of even the level of unemployment, not to mention the potentially available stock of labor. Suddenly, as it were, local groups and state agencies had data gathering responsibilities thrust upon them. The response, in many cases, was heroic· all too frequently, the results were disappointing. It would be an interesting study in itself to see what was actually done with all of these reports. The general impression received by the principal investigator is that many were filed and forgotten If, in some cases, they may have been a substitution for action, in other cases they may have stimulated action.

We do not wish to sound so gloomy. In the last few years, we have seen considerable interest in the question on the part of University economists, sociologists, and statisticians, much of it financed by OMPER and its predecessor agency. Sophisticated work, such that being done by persons like Norton at the University of Pennsylvania and Harms at Temple, is in progress. The Bureau of Employment Security has begun to re-examine its routine procedures, and has embarked on a program of sending selected state agency employees to Universities for training institutes This awakening comes ironically, at a time when labor markets are becoming tight and unemployment that is genuinely structural may be more easily dealt with.

If we take the matching of jobs and workers as a first approximation of manpower policy, then our categories 1 and 2 are the most important aspect of our report, since they deal directly with supply and demand. We have seen that estimating demand by sampling employers involves certain difficulties: 1) The sample must be constructed carefully; 2) cooperation must be elicited and, when necessary, confidentially be assured - data need not always be made public; 3) employer projections of their needs cannot be given much weight. Greater hope lies in the development of sectoral models that can be disaggregated by region; many employers simply do not know their needs even a month in advance;

4) employer job classification must be reconciled with existing classification systems such as D.O T. or be standardized in simpler form than D O T. Research to develop categories of "job families," i.e occupations with easily transferable skills, would be useful. A selling job would have to be done to convince employers that use of such categories is in their own interest.

The supply side presents us with an equally imposing list of difficulties. Establishment reports or employer surveys can give some idea regarding the characteristics and dimensions of the employed labor force. Some ideas regarding underemployment can be obtained from Employment Service applications made by employed workers, but unless an index can be constructed that has some quantitative rigor, only a loose, qualitative indication can be gotten this way. Hidden unemployment can be reached only by the household survey method: since the household survey can also yield information regarding employment, unemployment and underemployment, it would appear to be the most useful tool to use on the supply side. It is, of course, expensive, but careful sampling can reduce the expense. To be an effective tool household surveys must be conducted periodically: one shot jobs produce results that are subject to great bias from seasonal, cyclical and random situations. Furthermore, survey questions must be carefully phrased and interviewers must be able to relate to respondents. This is particularly important where lower social economic groups or distinct ethnic or racial groups are concerned. Even so, results will be imperfect, and respondents' answers may be affected by their real expectations, a matter that hypothetical questions may not elicit (the Monthly Report on the Labor Force probably underestimates unemployment for this reason, among others).

When this is understood, the importance of developing area series of labor force participation rates and using them along the lines suggested by the Bowen and Finegan study becomes clear. A regular series of area participation rates by relevant age sex-color education subsets can pay handsome dividends in the future (although not immediately) by pointing to the actual extent of hidden employment as demonstrated by observed behavior. Predictive models can be developed by constructing indices of demand for the subsets[1]. Observed behavior can also be useful as a check on survey results.

We also noted the use of mail surveys, either by sampling or attempts at censuses of the universe. Without some follow-up on non-respondents, the results are likely to be biased, since persons seeking work or new jobs, and persons currently desposed to enter the labor force, are likely to respond disproportionately.

School and training program data have also been used to estimate (parts) of future labor supply. We do not recall, however, any use of public assistance data in the estimation potential labor supply. Able-bodied recipients can be found in General Assistance and Aid to Families with Dependent Children

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Programs (with regard to the latter, AFDC UP is important). GA has been shown to be elastic relative to employment.[2] Although the TEUC studies followed some of the long term unemployed on the road to relief, this information was not integrated into studies oriented toward estimating the size of the potential labor force.

Treatment of mobility tended to be naive. Most migration estimates consisted of projections of past trends. Considerable research is needed to study the response of migration to employment opportunity. Nothing comparable to Parnes' summary of the state of knowledge as of 1954[3] is available today.

Given the conceptual difficulties of separating stocks from flows, it is not astonishing that strange results sometimes emerged. Case 2R 3 is an illustration of how great an undercount of potential labor force is made by conventional methods. Sophisticated employers have long known this. This can be illustrated with an example gotten from conversation with a state labor market analyst. A nationally known employer opened a plant in an area classified as "tight:" the unemployment rate was 1.8%. Despite this, the employer had no difficulty hiring 4000 workers in an area with an estimated population of 40,000. Our informant had no idea where this labor supply appeared from: to what extent did the new employer bid workers away from existing employers (and how, if at all did the existing employers restock their labor force), how many unemployed and underemployed were absorbed, what change in the labor force participation rate occurred, if any, and how much in-migration was involved? Here is an instance where a special study, on an export basis, could be extremely useful to local manpower planners in determining what other untapped manpower resources were available for further community development.

The section on wage surveys does not require extended comment here. Wage data are easily obtainable, once the difficulties of costing fringe benefits are overcome. It is, of course, asking too much to seek some proxy for quality of working conditions, and this remains an economist's pipe dream, even though working conditions are a variable that go into both recruitment policies and worker choice making. The studies on technological change do not bear elaboration because the samples we found were so poor. The one of some interest, Case 4R-3, indicates that individual impact studies may not have a great potential for general applicability, although they may be highly useful for particular situations. The reader is reminded that part of the impact of technological change on employment and unemployment in an area will not be picked up by such specialized studies, since some of the impact may be on new entrants into the labor force, in terms of unemployment and out-migration, and some may alter labor force participation rates. The effort that was made in 4R-3 to reconcile company job titles with the D O T may point the way toward coping with similar problems encountered in job vacancy studies.

The economic base reports and O E D P s provided interesting reading. Many reflected the hopes, fears, and prejudices of the local community. One county in Mississippi (we did not cite it in our work) posited as an important goal an improvement in the quality of its Negro ministers; apparently local Negro ministers were not God-fearing enough to suit the taste of the white community. A northern area thought that its economy could be developed by attracting elderly people; its plan did not call for the establishment of adequate medical facilities, a factor of rather great importance to old people. Other examples of this type could be cited, but the above will suffice.

Some of the planning studies were quite competent, given the difficulties referred to in the body of our work. The best were done by state agencies and universities, and some of the best came from professional consultants. All relied heavily on published data, occasionally supplemented by survey data of the type we analysed in our categories 1 and 2. Among the better ones, those prepared by universities and consultants tended to use somewhat more sophisticated estimation and projection techniques. For example, case 7R-4 used four alternative models of population projections; 7R-3 used four alternative models to estimate the number of jobs needed by 1970 to absorb the expected growth in the labor force. We have indicated earlier our preference for models based on a variety of assumptions.

It had been our hope, in undertaking this study, to enable local areas to get useful ideas from the work of others. At the time we began, no one had examined the mass of publications that analysed the manpower situation in various communities throughout the nation. No attempt was made by us to be encyclopedic. We should have anticipated the result: the studies tended to follow patterns established by various federal agencies, and were carried out with varying degrees of competence. It is clear that some planners did not know what they were planning for, and this confusion was paralleled by confusion among distinguished economists regarding the nature of the unemployment problem. Even where studies conformed to a given pattern, variations in quality were wide. For example, we were confronted with studies that did not describe their methodology, or did so only cursorily, thus making them useless to any outside agency. We came across surveys that did not explain whether a sample or universe was involved or, if the latter, what the size, stratification, etc, were. On the other hand, quite a few revealed high levels of sophistication.

On the whole, it seems to us that more can be gained by advancing the state of knowledge regarding the measurement of manpower problems than can be gained from inter-jurisdictional comparisons of studies. We have no basis for any conclusions regarding the best method of disbursing such knowledge: we suspect that it may be accomplished by centralizing the responsibili for all manpower studies (including poverty, youth employment, etc.) in each area, and using each center as the major link in a transmission belt. To some extent this already exists in the structure of the Bureau of Employment Security and its affiliated state agencies, but we do not want to explore jurisdictional problems at this juncture.

We further wish to stress the greater usefulness of continuing series over one shot studies. In this respect we favor, as indicated in the previous chapter, continuing series of job vacancy data, and quinquennial censuses that provide reliable household survey results at greater frequency than the present decennial census. Planning, in a meaningful sense of the word, is a continuous process, as distinguished from discrete projects, and requires continuous data. We do not wish to exclude, however, the occasional one shot study of a particular circumstance, such as the impact of the establishment or removal of a major employer in a given area, since such studies can be of particular usefulness to local planners even though their general usefulness may be limited.

At present, local anti-poverty planners seem to be going through research agonies similar to those that manpower planners underwent during the early days of MDTA. It is to be hoped that they can learn from the exploratory errors made by manpower planners in their administrative infancy.

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1. Bowen and Finegan, _op_ _cit_., pp 157-8.

2. J M Lynch "Trends in PA Programs 1961-65 " unpublished internal memorandum prepared for the use of HEW personnel. Lynch estimated that the use in employment opportunities during the period resulted in a 400 000 decline in GA recipients.

3. Herbert S Parnes. *Research on Labor Mobility* New York: Social Science Research Council 1954.

APPENDIX

List of published works examined in connection with the project, by classifications used.

1. SURVEYS: MANPOWER REQUIREMENTS; OUTPUT OF TRAINEES, ETC.

1. Arizona
   Cochise County
   Employment Security Commission
   A Report of the Services Industry
   January 1965

2. California
   Riverside County
   Department of Employment
   Survey of Durable Goods Industry
   August 1964

3. California
   San Bernardino County
   Department of Employment
   Durable Goods Survey
   September 1964

4. California
   San Bernardino-Riverside Counties
   Department of Employment
   Medical Services Survey
   April 1964

5. Connecticut
   State Labor Department
   Community Action Programs
   January 15, 1965

6. Connecticut
   Danbury LMA
   Connecticut Labor Department and Danbury Chamber of Commerce
   Jobs for Tomorrow
   January 15, 1965

7. Connecticut
   Hartford LMA
   Connecticut Labor Department and Hartford County Manufacturers Assoc.
   Jobs of the Future
   July 15, 1964

8. Connecticut
   Torrington LMA
   Connecticut Labor Department and Torrington Chamber of Commerce
   Skills for the Future
   February 20, 1963

9. Delaware
Wilmington LM
Bureau of Economic Business Research, U. of Delaware and the Employment Security Commission, Delaware Department of Labor and Industrial Relations
Area Skills Survey
1962

10. Florida
Miami Metropolitan Area
Florida State Employment Service
Florida Industrial Commission
Area Skill Survey
June 1964

11. Florida
Ocala Area (Marion County)
Florida State Employment Service
Florida Industrial Commission
Area Skill Survey
May 1964

12. Georgia
State Department of Labor, Employment
Skill Study: summary report
1963

13. Georgia
State Department of Labor, Employment Security Agency
Skill Study, Complete Edition
March 15, 1963

14. Georgia
Atlanta Metropolitan Area
Georgia Department of Labor
Employment Security Agency
State Employment Service
Atlanta Skilled Worders in Manufacturing
1958

15. Idaho
Bingham County
Employment Security Agency
A Study of Occupations
September 1963

16. Idaho Bonneville County
Employment Security Agency
A Study of Occupations
September 1963

17. Idaho
    Pocatello Area
    Employment Security Agency
    A Study of Occupations
    November 1963

18. Idaho
    Ten Counties of Southern Idaho: Canyon, Ada, Twin Falls, Jerome, Minidoka, Power, Bannock, Bingham, Bonneville
    University of Idaho
    Bureau of Business and Economic Research
    Labor Force and Career Plans of High School Seniors
    December 1964

19. Indiana
    Employment Security Division
    Manpower Needs
    December 1962

20. Indiana
    Employment Security Division
    Manpower Needs; supplement to Manpower Needs, December 1962
    December 1962

21. Indiana
    Gibson, Posey, Vanderburgh and Warrick Counties
    Employment Security Division
    Jobs for Youth, Part One
    July 1964

22. Indiana
    Gibson, Posey, Vanderburgh and Warrick Counties
    Employment Security Division
    Jobs for Youth, Part Two
    July 1964

23. Indiana
    Gibson, Posey, Vanderburgh and Warrick Counties
    Employment Security Division
    Jobs for Youth, Part Three
    July 1964

24. Indiana
    Gibson, Posey, Vanderburgh and Warrick Counties
    Employment Security Division
    Jobs for Youth, Part Four
    July 1964

25. Indiana
Harrison County
Employment Security Division
Manpower Survey, Part II
July 1962

o 26. Indiana
Indianapolis SMSA
Employment Security Division
Data Processing Systems and Employment Expectations
January 1964

27. Maryland
Calvert, Charles and St. Mary's Counties
Department of Employment Security
Report on Training Needs Survey Conducted in January-February 1965
March 1965

o 28. Massachusetts
Boston SMSA
Bureau of Business Research, College of Business Admisistration,
Boston College for Division of Employment Security
Manpower Skills Survey
1964

o 29. Massachusetts
Worcester SMSA
Division of Employment Security
Manpower Skill Survey (2 copies)
1963

30. Minnesota
Fergus Falls
Local Office of State Employment Service with the assistance of the
Research and Planning Section of State Department of Employment
Security Manpower
1963

o 31. Missouri
St. Louis Metropolitan Area - Missouri portion
Division of Employment Security
Area Skill Survey, 1963-1966
January 1964

32. Missouri
St. Louis Metropolitan Area - Missouri portion
Division of Employment Security
Youth in the Labor Market
December 1962

o 33. Nebraska
Omaha Area
State Department of Labor, Division of Employment
Area Skills Survey
June 1964

34. New Jersey
Flemington LMA
Department of Labor and Industry
Division of Employment Security
Occupational Training Needs Survey
May 1964

35. New Jersey
Trenton LMA
State Department of Labor and Industry
Division of Employment Security
Occupational Training Needs Survey
May 1964

36. North Carolina
Bureau of Employment Security Research
Employment Security Commission
Study of Manpower Needs in Selected Industries, 1963-1966
June 1964

37. North Carolina
Employment Security Commission
A Digest of the Study of Technical and Skilled Manpower

38. North Carolina
Department of Curriculum Study and Research
State Board of Education
A Guide to the Further Development of Industrial Education Centers
1963

39. North Carolina
Durham LMA
Employment Security Commission
Employer Forecasts of Future Labor Requirements
December 1958

40. Oklahoma
Employment Security Commission
Manpower
December 1964

41. Oklahoma
Oklahoma City SMSA
Employment Security Commission
Preliminary Release: Manpower Inventory and Requirements Survey
April 1964

42. Oklahoma
Tulsa SMSA
Employment Security Commission
Preliminary Release: Manpower Inventory and Requirements Survey
March 1964

43. Oregon
Lane County
State Employment Service in Cooperation with U. S. Department of Labor

Labor Skill Survey
March 1962

o 44. Oregon
Portland Metropolitan Area
Metropolitan Area Manpower Council in cooperation with
Washington Employment Security Department
Oregon Department of Employment
U.S. Department of Labor
Manpower Resources Study

o 45. South Carolina
Columbia Metropolitan Area
Employment Security Commission
Area Skill Survey
January 1962

o 46. South Carolina
Greenville SMSA
State Employment Security Commission
Area Skill Survey
November 1963

47. Pennsylvania
Wharton School, U. of Pennsylvania for State Department of Internal Affairs

An Evaluation of Selected Data Requirements and Availability for
Urban Economic Planning and Development
December 1963

48. Pennsylvania
Erie LMA
Bureau of Employment Security
Manpower Skill Requirements and Training Needs
1959

49. Pennsylvania
Philadelphia LMA (Pennsylvania portion)
Bureau of Employment Security
Manpower Skill Requirements and Training Needs, 1962-1967
November 1962

50. Pennsylbania
Reading LMA
Bureau of Employment Security
Manpower Skill Requirements and Training Needs
1957

51. Pennsylvania
Wilkes-Barre - Hazelton LMA
Bureau of Employment Security
Manpower Requirements and Training Needs
1957

52. Pennsylvania
York LMA
Bureau of Employment Security
Manpower Skill Requirements and Training Needs
1959

53. Tennessee
Carroll County
State Department of Employment Security
Occupational Survey
April 1964

54. Tennessee
Chattanooga LMA
State Department of Employment Security
Job Opportunities and Vocational Training (A Study of the Chattanooga LMA: part II)
February 1964

55. Tennessee
Davidson County
State Department of Employment Security
Occupational Survey
September 1962

56. Tennessee
Rhea County
State Department of Employment Security
Occupational Survey
April 1964

57. Tennessee
Shelby County
State Department of Employment Security
Occupational Survey
February 1965

58. Texas
Austin Area (Travis County)
Manpower, present and future, 1961-1966
January 1962

59. Texas
8-county Houston-Gulf Coast Area
State Employment Commission
Manpower Patterns Through 1966
December 1962

60. Utah
Salt Lake-South Davis
Salt Lake Employment Office
State Department of Employment Security
Salt Lake-South Davis Occupational Skill Index
September 1962

61. Washington
Pierce County
County Manpower Committee in Cooperation With State Employment
Security Department and U.S. Department of Labor
Manpower Survey
1963

62. Washington
Spokane County
County Job Opportunities Committee in cooperation with
State Employment Security Department and U. S. Department of Labor
Manpower Resources Study, 1962-1967

63. West Virginia
Department of Employment Security
Labor Force: volume I, number 13, Statewide summary
December 1963

64. West Virginia
Counties of Barbour, Doddridge, Harrison, Marion, Monongalia, Preston & Taylor
Department of Employment Security
Labor Force: volume 1, number 7
February 1962

65. West Virginia
Boone, Logan and Mingo Counties
Department of Employment Security
Labor Force: volumve 1, number 1
May 1960

66. West Virginia
Counties of Braxton, Clay, Gilmer, Lewis, Nicholas, Upshur and Webster
Department of Employment Security
Labor Force: volume 1, number 6
September 1961

67. West Virginia
Counties of Brooke and Hancock
Department of Employment Security
Labor Force: volume 1, number 10
September 1962

68. West Virginia
Charleston Metropolitan Area
Department of Employment Security
Manpower Requirements and Training Needs Survey, 1958 to 1963

69. West Virginia
Counties of Grant, Hampshire, Hardy, Mineral, Pendleton, Randolph and Tucker
Department of Employment Security
Labor Force: volume 1, number 12
December 1962

70. West Virginia
County of Kanawha
Department of Employment Security
Labor Force: volume 1, number 8
June 1962

71. West Virginia
Logan County
Department of Commerce
Redevelopment Plan
1961

72. West Virginia
Counties of McDowell, Raleigh, and Wyoming
Department of Employment Security
Labor Force: volume 1, number 2
July 1960

73. West Virginia
Webster County
State Department of Commerce
Redevelopment Plan
1961

74. West Virginia
Wheeling-Steubenville Metropolitan Area
Department of Employment Security
Manpower Requirements and Training Needs Survey, Sept. 1958 to. Sept. 1963

75. Wisconsin
State Employment Service
Manpower Outlook: Individual Occupational Reports, 1961-1966

76. Wisconsin
State Employment Service
Manpower Outlook: Individual Occupational Reports, 1962-1967

77. Wisconsin
State Employment Service
A Study of Health and Related Service Occupations
April 1964

78. Wisconsin
State Employment Service
Manpower Outlook, 1962-1967: Clerical, Sales, Service, Skilled Occupations

79. Wisconsin
State Employment Service
Manpower Outlook, 1961-1966: Managerial, Professional, Semiprofessional Occupations

80. Wisconsin
State Employment Service
Manpower Outlook, 1961-1966: Teaching Professions

2. SURVEYS: POTENTIAL LABOR FORCE

81. Arkansas
Northwest Arkansas Labor Market
Industrial Research and Extension Center
College of Business Administration, University of Arkansas
Labor Supply, 1960
November 1960

82. Arkansas
Stone County
State Department of Labor
Employment Security Division
Experimental Rural Area Program: Part II-b, Economic Base Report
April 1961

84. California
Department of Employment, Report 840 #1
Estimates of Domestic Labor Supply Available to California Agriculture Based on Disability Insurance Records
April 29, 1964

85. California
Orange County
Department of Employment
Characteristics of New Claimants and Job Applicants
November 1964

86. California
Orange County
Department of Employment
Characteristics of Unemployed Worders, October and November 1964
March 1965

87. California
San Bernardino-Riverside LMA
Department of Employment
Characteristics of New Claimants and Job Applicants
November 1964

88. California
San Diego County
Department of Employment
Characteristics of New Claimants and Job Applicants
November 1964

89. California
San Diego County
Department of Employment
Characteristics of Unemployed Workers, October and November 1964
February 1965

90. California
San Jose SMSA
Department of Employment
Characteristics of Unemployment Insurance Claimants, Sept. 1964
November 1964

91. California
Santa Barbara County LMA
Department of Employment
Characteristics of Unemployed Workers, November 1963
January 1964

92. California
Ventura County LMA
Department of Employment
Characteristics of Unemployed Workers, March 1964
May 1964

93. Illinois
East St. Louis
Public Administration and Metropolitan Affairs Program
Southern Illinois University at Edwardsville
Employment and Unemployment
January 1964

94. Indiana
Crawford County
Employment Security Division
Manpower Survey
December 1961

95. Indiana
Harrison County
Employment Security Division
Manpower Survey
March 1962

96. Indiana
Perry County
Employment Security Division
Manpower Survey
September 1962

97. Indiana
Rush County
Employment Security Division
Manpower Survey
November 1962

98. Iowa/Davis County
Community Development Program, Part 1
Employment Security Commission
State Employment Service
Manpower Occupational Potential Inventory
September 1963

99. Iowa
Henry County
Community Development Program, Part 1
Employment Security Division
State Employment Service
Manpower Occupational Potential Inventory
January 1965

100. Iowa
Van Buren County
Community Development Program, Part 1
Employment Security Commission
State Employment Service
Manpower Occupational Potential Inventory
February 1964

101. Iowa
Wayne County
Community Development Program, Part 1
Employment Security Commission
State Employment Service
Manpower Occupational Potential Inventory
May 1964

102. Maryland
Elkton, Cecil County
Department of Employment Security
Department of Economic Development
Cecil County Economic Development Commission
Memorandum from Fred F. Chirigotis: What a Labor Survey Did
March 9, 1965

103. Massachusetts
Division of Employment Security
Retraining in Massachusetts Under the Manpower Development and
Training Act from December 1962 through May 31, 1964

104. Michigan
Employment Security Commission
Detroit Board of Education
Detroit High School Leaver Project
October 1964

105. Michigan
Employment Security Commission
Statement of Director before the Select Subcommittee on Labor
August 10, 1964

106. New Hampshire
Department of Employment Security
Job Prospects for Graduates and Other Available Workers in 1964-1965
May 1964

107. New Hampshire
Department of Employment Security
Unemployment and Work Force, 1950 to 1964
February 1965

108. New Jersey
Division of Employment Security
High School Graduates: Their Future Plans
July 1964

109. New York
State Department of Labor
Division of Employment
Unemployment Insurance Claimants, 1959-1960, Statistical Appendix
June 1964

110. New York
State Department of Labor
Division of Employment
Unemployment Insurance Claimants,1959-1960
June 1964

111. North Carolina
Employment Security Commission
Estimated Recruitable Labor for Industrial Development by County
March 15, 1965

112. North Carolina
Employment Security Commission
1962 Continuous UI Claimant Study
August 1964

113. North Carolina
Alleghany County
Employment Security Commission
Smaller Communities Program, Manpower Resource Report
January 1965

114. North Carolina
Ashe County Area
Bureau of Research and Statistics
Employment Security Commission
Summary Report of Labor Supply Survey
December 1960

115. North Carolina
Bladen County
Bureau of Employment Security Research
Summary Report of Labor Supply Survey
January 1965

116. North Carolina
Johnston County
Bureau of Employment Security Research
Summary Report of Labor Supply Survey
February 1965

117. North Carolina
Sampson County
Bureau of Employment Security Research
Summary Report of Labor Supply Survey
December 1964

118. North Carolina
Sampson County Area
Bureau of Employment Security Research
Summary Report of Labor Supply Survey
December 1964

119. Virginia-Tennessee
Bristol
Research, Statistics and Information Division, Virginia Employment Commission
Labor Supply Survey
September 1963

120. Virginia
Bristol LMA
Division of Research, Statistics and Information, State Employment Commission
Commuting Survey
April 1964

121. Virginia
Grundy
Virginia Employment Commission
Labor Supply Survey
July 1964

122. Virginia
Roanoke-Lynchburg Area
Virginia Employment Commission
Labor Supply Survey
February 1964

123. West Virginia
Beckley, Charleston, Clarksburg, Huntington, Wheeling
State Department of Employment Security
Special Study of New and Re-entrants into the Labor Market, July 1957 -June 1958
February 1959

124. West Virginia
Braxton, Gilmer, Lewis, Upshur Counties
Department of Employment Security
Applicant Occupational Potential

125. West Virginia
Grant, Hardy, Pendleton
Department of Employment Security
Labor Supply Survey
March 1964

126. West Virginia
Monongalia, Marion, Harrison, Taylor
Department of Employment Security
Labor Supply Survey
December 1963

127. West Virginia
Monroe County
Department of Employment Security
Labor Supply Survey
July 1963

3. WAGES, INCOME AND OTHER DOLLAR MAGNITUDES

128. Nebraska
Grand Island
Division of Employment
Occupational Wage Survey
August 1964

129. Nebraska
Hastings
Division of Employment
Occupational Wage Survey
1964

130. Nebraska
Kearney
Division of Employment
Occupational Wage Survey
1964

131. North Carolina
Employment Security Commission
Bureau of Employment Security Research
Fringe Benefit Practices in Manufacturing Industries
May 1963

132. North Carolina
Employment Security Commission
Bureau of Employment Security Research
Occupational Wage Rates in Manufacturing Industries
January 1964

133. North Carolina
Employment Security Commission
Bureau of Employment Security Research
Survey of Weekly Wage Scales for Selected Occupations
August 1964

134. Washington
Benton and Franklin Counties
Tri-city Nuclear Industrial Council Inc. in cooperation with State Employment Security Department and U. S. Department of Labor
Occupational and Wage Survey - 1964
November 1964

4. IMPACT OF TECHNOLOGICAL & STRUCTURAL CHANGE

135. Arizona
Aguila LMA
Farm Placement Section, Employment Security Commission
The Economic Impact of a Changing Agricultural Labor Market
1964

136. Arizona
Parket LMA
Farm Placement Section, Employment Security Commission
The Economic Impact of a Changing Agricultural Labor Market
1963

137. Arizona
Willcox LMA
Farm Placement Section, Employment Security Commission
The Economic Impact of a Changing Agricultural Labor Market
1964

138. Missouri
Missouri Bootheel
Division of Employment Security
Socioeconomic Change
May 1963

139. Wisconsin
Industrial Commission, State Employment Service
Movement of Blue Collar Workers to Service Jobs

140. Wisconsin
State Employment Service
Changing Workforce Characteristics of an Automated Insurance Company
Automation Program, Report No. 3, Supplement
June 1964

141. Wisconsin
State Employment Service
A Large Life Insurance Company Automates
Automation Program, Report No. 3
April 1964

142. Wisconsin
State Employment Service
Employment Basics, Part I: Employment Change in Industry
November 1964

143. Wisconsin
State Employment Service
Employment Basics; Part II: Occupational Changes in Employment
November 1964

144. Wisconsin
State Employment Service
Movement of Blue Collar Workers to White Collar Jobs

145. Wisconsin
State Employment Service
White-Collar Boom

5. LONG TERM UNEMPLOYED

146. Delaware
City of Wilmington
Division of Urban Affairs
University of Delaware
The Long-Term Unemployed
October 1963

147. District of Colombia
Districe Unemployment Compensation Board
A Study of Claimants Who Exhausted Unemployment Insurance Benefits, July 1, 1955 - June 30, 1956
January 1958

148. Nevada
Department of Employment Security
Characteristics of Long-Term Unemployed
1964

149. New York
State Department of Labor
Division of Employment
The Long-Term Unemployed, 1961-1962
August 1964

150. Utah
Department of Employment Security
The Characteristics of Long-Term Unemployed Workers
June 1964

6. ECONOMIC BASE REPORTS

151. Delaware
Wilmington Metropolitan Area
Division of Urban Affairs, U. of Delaware
An Economic Base Study
October 1963

152. Iowa
Davis County
Community Development Program, Part 2
Employment Security Commission
State Employment Service
A Base Economic Report
October 1963

153. Iowa
Henry County
State Employment Security Commission
An Economic Base Report - Community Development Program, Part 2
May 1965

154. Iowa
Van Buren County
Community Development Program, Part 2
Employment Security Commission
State Employment Service
An Economic Base Report
November 1964

155. Iowa
Wayne County
Community Development Program, Part 2
Employment Security Commission
State Employment Service
An Economic Base Report
January 1965

156. Massachusetts
Brockton
Brockton Redevelopment Authority
Land Use Marketability Study
October 1964

157. New York
City of Albany
Consultants: Candeub, Fleissig & Associates
Market Analysis: South End General Neighborhood Renewal Plan

158. New York Chemung County
State Department of Labor
Division of Employment
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May 1964

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Nebraska
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Nevada
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New Mexico
190. Catron County
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North Carolina
192. Alleghany County
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Ohio
196. Washington County

Oklahoma
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Tennessee
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Utah
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